

# ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1

2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER 08/10/2020		2. CONTRACT NO. (If any) 68HERC19D0003		6. SHIP TO: a. NAME OF CONSIGNEE Office of Research and Development	
3. ORDER NO. 68HERC20F0381		4. REQUISITION/REFERENCE NO. PR-ORD-20-01438			
5. ISSUING OFFICE (Address correspondence to) CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001				b. STREET ADDRESS US Environmental Protection Agency 109 T.W. Alexander Drive	
				c. CITY Research Triangle Park	e. ZIP CODE 27711
7. TO: Robert Toth				f. SHIP VIA	
a. NAME OF CONTRACTOR ICF Incorporated, L.L.C.				8. TYPE OF ORDER	
b. COMPANY NAME				<input type="checkbox"/> a. PURCHASE <input checked="" type="checkbox"/> b. DELIVERY REFERENCE YOUR: Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.	
c. STREET ADDRESS 9300 LEE HIGHWAY				Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.	
d. CITY FAIRFAX		e. STATE VA	f. ZIP CODE 220316050		
9. ACCOUNTING AND APPROPRIATION DATA See Schedule				10. REQUISITIONING OFFICE ORD/OSIM-CIN	
11. BUSINESS CLASSIFICATION (Check appropriate box(es))					
<input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB					
12. F.O.B. POINT					
13. PLACE OF		14. GOVERNMENT B/L NO.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) 365 Days After Award	
a. INSPECTION Destination	b. ACCEPTANCE Destination			16. DISCOUNT TERMS	

## 17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	DUNS Number: 072648579 TOCOR: NICOLLE TULVE Max Expire Date: 08/10/2021  Continued ...					

SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(h) TOTAL (Cont. pages) ▲
	21. MAIL INVOICE TO:						
	a. NAME RTP Finance Center						
	b. STREET ADDRESS (or P.O. Box) US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts						
	c. CITY Durham						
		d. STATE NC	e. ZIP CODE 27711		\$98,253.00		17(i) GRAND TOTAL ▲
				\$98,253.00			

22. UNITED STATES OF AMERICA BY (Signature) 08/10/2020

ELECTRONIC SIGNATURE

23. NAME (Typed)  
William M. Yates  
TITLE: CONTRACTING/ORDERING OFFICER

**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO  
2

**IMPORTANT:** Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER 08/10/2020	CONTRACT NO. 68HERC19D0003	ORDER NO. 68HERC20F0381
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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
0001	Admin Office: CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001 Accounting Info: 20-21-C-26D5000-000FK8XPV-2532-26A5C-2026D5E 024-001 BFY: 20 EFY: 21 Fund: C Budget Org: 26D5000 Program (PRC): 000FK8XPV Budget (BOC): 2532 Cost: 26A5C DCN - Line ID: 2026D5E024-001 Period of Performance: 08/10/2020 to 04/09/2021  Funding for internal tracking number TO-0043 on the Human Health and Risk Assessment Contract 68HERC19D0003 Support for the Children's Health and Healthy Homes App				98,253.00	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$98,253.00

**PERFORMANCE WORK STATEMENT  
CONTRACT NO. 68HERC19D0003  
TO 68HERC20F0381  
Internal Tracking Number TO-0043**

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**TITLE:** Support for the Children's Health and Healthy Homes App

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**Specify Section & Paragraph SOW:** III.C.

**PERIOD of PERFORMANCE:** CO approval through 12 months.

**I. PURPOSE.**

The purpose of this task order is for the U.S. Environmental Protection Agency's (EPA), Office of Research and Development (ORD), Center for Public Health and Environmental Assessment (CPHEA) to obtain support for reviewing extant children's health and environmental health apps and preparing data and information for populating the selected app.

**II. BACKGROUND AND OBJECTIVES.**

Studies have shown that the condition of the home is an important factor in a person's health and well-being and that environmental exposures in the home are key determinants of health, particularly for children and the elderly. EPA has a great deal of information which can now be put to effective use through web 2.0 tools, including mobile applications. Taking advantage of these technologies allows the agency to put information in reach of those who can apply it when they need it to make more informed choices (<https://www.epa.gov/open/epa-mobile-applications-apps-empower-citizens-environmental-decisions>). Recently, Region 3 sponsored community focus group meetings on children's environmental health (CEH) where the capacity of community health advocates to identify and minimize potential environmental hazards in the home setting was discussed. The need for tools that can be deployed to both easily identify environmental factors affecting children's health and inform steps to minimize exposures was identified.

To address this need, ORD is partnering with Region 3 to develop a mobile app for community health advocates who conduct healthy home assessments. The target audience for the app includes community health advocates (including health and public health professionals) who provide home services to families, as well as to the parents/caregivers in these families. The app should have an interface with guided instructions, including screening questions for community health advocates to use in the field. The screening questions and associated content should help the user determine the environmental hazards, potential exposures, and how to minimize exposures. Though the app should be designed to accommodate future enhancements, this first round of development will focus on known chemical and biological hazards found in the everyday environment where children spend time (e.g., home, daycare, school). The relevant data and information resources focused on children's environmental health will also be identified and curated for inclusion in the app. To support these activities, this PWS describes the tasks to be completed under TO-0043.

### III. STATEMENT OF WORK.

**NOTE: Task 8 through Task 10 will be optional unfunded task to be considered for addition at a later date.**

The contractor shall be responsible for completion of several tasks. A summary of each task is provided below, including the time frame during which the task shall be completed.

**Task 1. The contractor shall establish initial communication and arrange for routine updates for the EPA Contracting Officer's Representative (COR).**

The contractor shall schedule an initial conference call with the EPA COR **within 1 week** after award of the task order to discuss any questions that ICF may have.

**Deliverable 1:** The contractor shall arrange a conference call with the COR **within 1 week after award of the task order.**

**Task 2. The contractor shall arrange a conference call to discuss the technical basis of this task with EPA.**

EPA ORD has established a team of scientists to work on the development of a children's environmental health and healthy homes app. The contractor shall organize a meeting between these EPA ORD scientists and the ICF contractor(s) working on this task order to discuss the scope of the project. **Within 2 weeks of task order award**, the contractor shall arrange for a conference call with the EPA COR and the EPA ORD scientists working on this project to discuss the scope of this task order.

**Deliverable 2:** The contractor shall arrange a conference call with the COR and EPA ORD scientists **within 2 weeks after award of the task order.**

**Task 3. The contractor shall develop a Quality Assurance Project Plan for implementation of the work supporting the review/selection of extant children's environmental health and healthy homes apps, curating of data and information for population in the app, beta testing, and manuscript writing.**

The contractor shall develop a Quality Assurance Project Plan (QAPP) that documents the quality processes and procedures for implementing and completing the work developed under Tasks 4-10. If available, EPA will provide one or more examples of recently approved QAPPs for similar research projects. The contractor shall submit the QAPP for the EPA COR's and QA Manager's approval. Guidance for developing EPA R-5/G-5 compliant QAPPs that meet EPA specifications prepared for activities conducted by or funded by EPA, are available online at [http://www.epa.gov/quality/qa\\_docs.html](http://www.epa.gov/quality/qa_docs.html), see "[EPA Requirements for Quality Assurance Project Plans \(QA/R-5\)](#)" and Guidance for Quality Assurance Project Plans EPA QA/G-5. Additionally, guidance on QAPP Requirements for Software and Application Development Projects will be provided. The contractor shall provide the COR with the draft QAPP **within 4 weeks after award of the task order**. The final QAPP shall be submitted to the COR **within 2 weeks of receiving comments on the draft QAPP from the EPA COR and QA Manager**. If practical, appropriate, and approved by EPA's QA Manager, an amendment to an existing QAPP could be developed.

**Deliverable 3a:** The contractor shall provide the COR with the draft QAPP **within 4 weeks after award of the task order.**

**Deliverable 3b:** The contractor shall provide the COR with the final QAPP **within 2 weeks of receiving comments from the EPA COR and QA manager.**

#### **Task 4. Review of extant children's environmental health and healthy homes apps.**

To facilitate development of app specifications, the contractor shall complete a review of extant children's environmental health and healthy homes apps according to the criteria identified in the QAPP. To focus the review, Table 1 lists several apps identified by EPA that may have relevant capabilities, features, or platforms. Other apps can be included, as appropriate. In reviewing extant apps, the contractor shall identify the platform, whether the platform can be accessed and adapted for use by EPA, app developer, app target audience, focus of the app content, suitability for adding a child-specific component to the app, identification of features and capabilities that would support community health advocates in evaluating hazards and recommending interventions (or that could be adapted to do so), and any other relevant aspects of the app. The contractor shall document information on the reviewed apps in such a way that the apps can be easily compared. EPA will use this information to select a platform and specify features for the app.

Table 1. Potential apps for use in project.

App	Location
Pediatric Environmental Health Toolkit (PEHT) mobile application	<a href="https://wspehsu.ucsf.edu/main-resources/for-clinical-professionals/tools/new-free-pediatric-environmental-health-app/">https://wspehsu.ucsf.edu/main-resources/for-clinical-professionals/tools/new-free-pediatric-environmental-health-app/</a>
Detox Me	<a href="https://silentspring.org/detox-me-app-tips-healthier-living">https://silentspring.org/detox-me-app-tips-healthier-living</a>
TracMyAir Smartphone app	<a href="https://www.ncbi.nlm.nih.gov/pubmed/31540404">https://www.ncbi.nlm.nih.gov/pubmed/31540404</a>
Personal Health Intervention Tool	<a href="https://www.rti.org/impact/phit">https://www.rti.org/impact/phit</a>
CDC Milestone Tracker app	<a href="https://www.cdc.gov/ncbddd/actearly/milestones-app.html">https://www.cdc.gov/ncbddd/actearly/milestones-app.html</a>
HUD Healthy Homes Basics	<a href="https://apps.apple.com/us/app/healthy-homes-basics/id1092367352">https://apps.apple.com/us/app/healthy-homes-basics/id1092367352</a>
Ovia Parenting	<a href="https://apps.apple.com/us/app/ovia-parenting-baby-tracker/id1106614359?shortlink=16d0be34&amp;pid=Website&amp;af_channel=marketing&amp;af_adset=homepage">https://apps.apple.com/us/app/ovia-parenting-baby-tracker/id1106614359?shortlink=16d0be34&amp;pid=Website&amp;af_channel=marketing&amp;af_adset=homepage</a>
Smoke Sense	<a href="https://www.epa.gov/air-research/smoke-sense-study-citizen-science-project-using-mobile-app">https://www.epa.gov/air-research/smoke-sense-study-citizen-science-project-using-mobile-app</a>
Green and Healthy Homes	<a href="https://www.greenandhealthyhomes.org/press_release/your-green-healthy-home-app-debuts-during-lead-poisoning-prevention-week-to-reduce-home-hazards-and-keep-families-healthier/">https://www.greenandhealthyhomes.org/press_release/your-green-healthy-home-app-debuts-during-lead-poisoning-prevention-week-to-reduce-home-hazards-and-keep-families-healthier/</a>

**Deliverable 4a:** The contractor shall provide a draft letter report detailing the review of extant apps **within 3**

**weeks of submitting deliverable 3b.**

**Deliverable 4b:** The contractor shall provide a final letter report **within 2 weeks of receiving comments from the EPA COR on deliverable 4a.**

**Task 5. The contractor shall develop specifications for features/capabilities of the app.**

The contractor shall develop specifications for features/capabilities of the selected app. The EPA COR will work with the team of ORD scientists to select an app or platform and desired capabilities based on the results of Task 4. The contractor shall adapt the detailed specifications on the selected app(s) to design an interface with guided instructions, including screening questions for community health advocates to use in the field. The screening questions should help the user determine the environmental hazards, potential exposures, and how to minimize exposures. For this first round of development, the focus should be on known chemical and biological hazards found in the everyday environment where children spend time (e.g., home, daycare, school). The basis for selection of these hazards/exposures for version one should be the Pediatric Environmental Health Toolkit (PEHT). Where possible, the PEHT information should be supplemented to provide CDC information on minimizing risk factors in the home associated with COVID-19. The contractor shall document how and why the screening questions were developed. The contractor shall document the selection of the chemical and biological hazards, to include the justification and rationale for inclusion in the app.

**Deliverable 5a:** The contractor shall provide a draft letter report describing the interface with guided instructions, screening questions, and chemical and biological hazard selection **within 6 weeks of EPA's selection of an app.**

**Deliverable 5b:** The contractor shall provide a final letter report describing the interface with guided instructions, screening questions, and chemical and biological hazard selection **within 4 weeks of receiving comments from the EPA COR on deliverable 5a.**

**Task 6. The contractor shall compile and curate data/information/literature for selected chemical and biological hazards for inclusion in the selected app.**

The contractor shall compile and curate data/information/literature for selected chemical and biological hazards to be included in the selected app. The primary source of information for version one of the app should be the Pediatric Environmental Health Toolkit (PEHT) and other relevant information from EPA (<https://www.epa.gov/children>) and CDC. The contractor shall document the data/information/literature for ease of updating the app with additional information.

**Deliverable 6a:** The contractor shall provide a draft letter report detailing the data/information/literature and draft application for MARC approval **within 4 weeks of completing Task 5.**

**Deliverable 6b:** The contractor shall provide a final letter report and application for submission to the MARC **within 2 weeks of receiving comments from the EPA COR on deliverable 6a.**

**Task 7. The contractor shall create a prototype of the app for beta testing.**

Based on the specifications and content developed in Tasks 5-6, the contractor shall develop a prototype of the app. In accordance with the QAPP, the contractor shall provide a detailed protocol for beta testing the app. The contractor shall provide details on the approach, information gathering, evaluation, and other associated processes during beta testing. EPA will use the protocol to beta test the app. Region 3 will beta test the app with selected community health advocates.

**Deliverable 7a:** The contractor shall provide a draft protocol for beta testing **within 4 weeks of the completion of Task 6.**

**Deliverable 7b:** The contractor shall provide a final protocol for beta testing **within 2 weeks of receiving comments from the EPA COR on deliverable 7a.**

**Deliverable 7c:** The contractor shall revise the protocol for beta testing **within 4 weeks of receiving feedback from the EPA COR after the completion of beta testing.**

**Task 8. Unfunded Optional Task. The contractor shall analyze results of beta testing and prioritize and implement refinements to app and contents based on results of beta testing.**

The contractor shall analyze the results from beta testing to prioritize and implement refinements to the app and its contents. Decisions on refinement will be made in consultation with the EPA COR and team of ORD scientists.

**Deliverable 8a:** The contractor shall provide a draft letter report detailing the results of the beta testing and the recommended refinements **within 4 weeks of completing deliverable 7c.**

**Deliverable 8b:** The contractor shall provide a final letter report **within 2 weeks of receiving comments from the EPA COR on deliverable 8a.**

**Task 9. Unfunded Optional Task. The contractor shall support the launch of app.**

The contractor shall support EPA's roll-out of the app by providing fact sheets, web material, and other documentation to promote the app to the community health advocates working in the field.

**Deliverable 9a:** The contractor shall provide a draft fact sheet, web content, and other documentation **within 2 weeks of completion of Task 8.**

**Deliverable 9b:** The contractor shall provide a final fact sheet, web content, and other documentation **within 2 weeks of receiving comments from the EPA COR on deliverable 9a.**

**Task 10. Unfunded Optional Task. Manuscript preparation.**

The contractor shall use all deliverables from all completed tasks to draft manuscript(s) addressing the development of the children's environmental health app. In consultation with the EPA COR, the number and type of manuscript(s) will be determined.

**Deliverable 10a:** The contractor shall establish a meeting to discuss the manuscript(s) to be prepared from this work **within 2 weeks of completion of Task 4.**

**Deliverable 10b:** The contractor shall submit draft manuscript(s) for EPA COR review based on the **agreed upon schedule established in deliverable 10a.**

**Deliverable 10c:** The contractor shall submit revised draft manuscript(s) for EPA technical review and clearance **within 4 weeks of receiving comments from the EPA COR.** The EPA COR will work to clear the manuscript(s) as soon as possible so that the contractor can submit to the journals for peer review.

The contractor shall furnish electronic copies of (or internet links to) any references, data sets or other materials obtained in the preparation of the deliverables for this task order.

#### IV. TIMETABLE.

Task	Deliverable	Time frame
1	Establish initial communication	Within 1 week after award of task order
2	Hold conference call with EPA staff and contractor	Within 2 weeks after award of task order
3a	Submit draft QAPP	Within 4 weeks after award of task order
3b	Submit final QAPP	Within 2 weeks of COR and QA manager comments
4a	Submit draft letter report on review of extant apps	Within 3 weeks of receiving comments on Task 3
4b	Submit final letter report on review of extant apps	Within 2 weeks of receiving comments on Task 4a
5a	Submit draft report on features/capabilities of selected app	Within 6 weeks of EPA's selection
5b	Submit final report on features/capabilities of selected app	Within 4 weeks of receiving comments on Task 5a
6a	Submit draft letter report on data/info/literature and draft MARC application	Within 4 weeks of completing Task 5
6b	Submit final letter report on data/info/literature and final MARC application	Within 2 weeks of receiving comments on Task 6a
7a	Submit draft letter report detailing protocol	Within 4 weeks of completing Task 6
7b	Submit final letter report detailing protocol	Within 2 weeks of receiving comments on Task 7a
7c	Submit final letter report on revised protocol	Within 4 weeks of completing Task 7b
8a	Submit draft letter report on beta testing and refinement Unfunded Optional Task	Within 4 weeks of completing Task 7
8b	Submit final letter report on beta testing and refinement Unfunded Optional Task	Within 2 weeks of receiving comments on Task 8a
9a	Submit draft materials for app launch Unfunded Optional Task	Within 2 weeks of completing Task 8
9b	Submit final materials for app launch Unfunded Optional Task	Within 2 weeks of receiving comments on Task 9a
10a	Meeting to discuss manuscript(s) Unfunded Optional Task	Within 2 weeks of completing Task 4
10b	Draft manuscript(s) Unfunded Optional Task	Agreed upon schedule
10c	Revised manuscript(s) for technical review and clearance Unfunded Optional Task	Within 4 weeks of receiving comments from COR

1. The contractor shall be responsible for obtaining a conflict of interest certification for any subcontractor services.
2. All deliverables shall be in conformance with the requirements of the task order before such deliverables are approved as final. Electronic copy of all deliverable shall be sent to the EPA Project Officer (PO).
3. The contractor shall comply with other applicable requirements for final task order reports as stipulated in the Contractual Agreement.
4. The contractor shall prepare all deliverables in accordance with the Quality Management Plan for the contract.

#### **V. NOTICE REGARDING GUIDANCE PROVIDED UNDER THIS TASK ORDER.**

Guidance is strictly limited to technical and analytical support. The contractor shall not engage in activities of an inherent governmental nature such as the following:

- (1) Formulation of Agency policy
- (2) Selection of Agency priorities
- (3) Development of Agency regulations

If the contractor receives any instructions from an EPA staff person that the contractor ascertains to fall into any of these categories or goes beyond the scope of the contract or task order, the contractor shall immediately notify the COR. The contractor shall also ensure that work under this Task Order does not contain any apparent or real personal or organizational conflict of interest. The contractor shall certify that no conflicts exist at the time the proposal is submitted to the EPA.

#### **VI. EPA CONTACT INFORMATION.**

Copies of all correspondence pertaining to the performance of this task order shall be sent electronically to the COR.

<b>Task Order Manager</b>	<b>Alternate TO Manager</b>
NICOLLE TULVE U.S. EPA OFFICE OF RESEARCH AND DEVELOPMENT CENTER FOR PUBLIC HEALTH AND ENVIRONMENTAL ASSESSMENT 109 TW ALEXANDER DR. MD-E-205-04 RESEARCH TRIANGLE PARK, NC 27711 (919)541-1077 (919)541-0239 FAX <a href="mailto:TULVE.NICOLLE@EPA.GOV">TULVE.NICOLLE@EPA.GOV</a>	MICHAEL BREEN U.S. EPA OFFICE OF RESEARCH AND DEVELOPMENT CENTER FOR PUBLIC HEALTH AND ENVIRONMENTAL ASSESSMENT 109 TW ALEXANDER DR. MD-E-205-02 RESEARCH TRIANGLE PARK, NC 27711 (919)541-9409 (919)541-0239 FAX <a href="mailto:BREEN.MICHAEL@EPA.GOV">BREEN.MICHAEL@EPA.GOV</a>



# ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1

2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER 08/12/2020		2. CONTRACT NO. (If any) 68HERC19D0003		6. SHIP TO: a. NAME OF CONSIGNEE Office of Research and Development	
3. ORDER NO. 68HERC20F0394		4. REQUISITION/REFERENCE NO. PR-ORD-20-01229			
5. ISSUING OFFICE (Address correspondence to) CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001				b. STREET ADDRESS US Environmental Protection Agency 1200 Pennsylvania Avenue, NW MC: 8101R	
				c. CITY Washington	e. ZIP CODE 20460
7. TO: Robert Toth				f. SHIP VIA	
a. NAME OF CONTRACTOR ICF Incorporated, L.L.C.				8. TYPE OF ORDER	
b. COMPANY NAME				<input type="checkbox"/> a. PURCHASE <input checked="" type="checkbox"/> b. DELIVERY REFERENCE YOUR: Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.	
c. STREET ADDRESS 9300 LEE HIGHWAY				Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.	
d. CITY FAIRFAX		e. STATE VA	f. ZIP CODE 220316050		
9. ACCOUNTING AND APPROPRIATION DATA See Schedule				10. REQUISITIONING OFFICE ORD/OSIM-CIN	
11. BUSINESS CLASSIFICATION (Check appropriate box(es))					
<input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB					
12. F.O.B. POINT					
13. PLACE OF		14. GOVERNMENT B/L NO.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) 06/22/2020	
a. INSPECTION Destination	b. ACCEPTANCE Destination			16. DISCOUNT TERMS	

## 17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	DUNS Number: 072648579 TOCOR: DAHNISH SHAMS Max Expire Date: 08/11/2021  Continued ...					

SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(h) TOTAL (Cont. pages)
	21. MAIL INVOICE TO:						
	a. NAME RTP Finance Center						\$95,110.00
	b. STREET ADDRESS (or P.O. Box) US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts						\$95,110.00
c. CITY Durham			d. STATE NC	e. ZIP CODE 27711		17(i) GRAND TOTAL	

22. UNITED STATES OF AMERICA BY (Signature) 08/12/2020

23. NAME (Typed)  
William M. Yates  
TITLE: CONTRACTING/ORDERING OFFICER

**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO  
2

**IMPORTANT:** Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER 08/12/2020	CONTRACT NO. 68HERC19D0003	ORDER NO. 68HERC20F0394
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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
0001	<p>Admin Office: CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001 Period of Performance: 08/12/2020 to 08/11/2021</p> <p>Contract 68HERC19D0003 HHRA TO-0XX General Support for the Health Assessment Workplace Collaborative 2020</p> <p>Accounting Info: 20-21-C3-26D1000-000F84-2532-26A5C-202 6D1C018-001 BFY: 20 EFY: 21 Fund: C3 Budget Org: 26D1000 Program (PRC): 000F84 Budget (BOC): 2532 Job #: HQ00BG00 Cost: 26A5C DCN - Line ID: 2026D1C018-001 Funding Flag: Complete Funded: \$78,463.00</p> <p>Accounting Info: 19-20-C-26D1000-000F84-2532-26A5C-2026 D1C018-002 BFY: 19 EFY: 20 Fund: C Budget Org: 26D1000 Program (PRC): 000F84 Budget (BOC): 2532 Cost: 26A5C DCN - Line ID: 2026D1C018-002 Funding Flag: Complete Funded: \$16,647.00</p>				95,110.00	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$95,110.00

# **PERFORMANCE WORK STATEMENT**

**Contract No. 68HERC19D0003**

**Task Order No. 68HERC20F0394**

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**Title:** General Support of the Health Assessment Workplace Collaborative (HAWC) 2020

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**Specify Section & Paragraph SOW:** A. Assessment Issues and Documents

**Period of PERFORMANCE:** TO Award – One Year

## **I. PURPOSE**

The purpose of this task order is to provide services to the U.S. Environmental Protection Agency's (EPA) Center for Public Health and Environmental Assessment (CPHEA), Office of Research and Development (ORD), in supporting the development of the Health Assessment Workplace Collaborative (HAWC).

## **II. BACKGROUND**

EPA CPHEA provides scientific leadership for evaluating human health and ecological risks associated with exposure to physical, chemical, and biological stressors, including environmental pollutants. CPHEA relies upon databases and tools to execute its mandated function of effectively analyzing, synthesizing, and communicating information in support of EPA's mission to protect human health and the environment. One of those tools is the Health Assessment Workplace Collaborative (HAWC).

HAWC is a collaboration of several individuals and organizations who create, maintain, and enhance the functionalities of this tool. The lead developer of the project was Andy Shapiro, who created the prototype in partial fulfillment of the requirements for the degree of Master of Science in Public Health in the Department of Environmental Sciences and Engineering at the University of North Carolina at Chapel Hill under direction of Dr. Ivan Rusyn. Overall guidance on HAWC development is provided by a steering committee with representation from the National Toxicology Program at the National Institute of Environmental Health Sciences (NIEHS/NTP), Texas A&M University, and the Center for Computational Toxicology and Exposure of the Environmental Protection Agency (EPA/ORD/CCTE).

## **III. STATEMENT OF WORK**

### **A. Objective**

The HAWC database is changing daily as users add more data to assessments. The objective of this task order is to assist CPHEA in developing the Health Assessment Workplace Collaborative (HAWC) application to serve the needs of EPA in producing assessments.

### **B. Specific Requirements (Tasks)**

#### **Task 1: Establish Communication**

Within 3 days of the start date of this TO, the Contractor shall schedule a conference call (not to exceed 1 hour) with the TOCOR and appropriate contractor staff to clarify outstanding questions and to review specific tasks. The TOCOR will submit the work requests via a "ticket." Approved tickets will be confirmed via email to the

Contractor and will be submitted with each request. Copies of all correspondence pertaining to the performance of this task order shall be sent to the CL-COR.

Within 3 days of any modification, the Contractor shall schedule a conference call (not to exceed 1 hour) with the TOCOR and appropriate contractor staff to clarify outstanding questions and to review additional tasks.

Delivery Schedule: Conference call scheduled within 3 days after receipt of task order.

## **Task 2. Quality Assurance Project Plan (QAPP)**

The Contractor shall update the existing QAPP for this PWS to include the additional tasks specified in this task order. The QAPP shall be submitted for approval. The following EPA QAPP ID: L-CPAD-0031961-QP-1-1 should be included on the QAPP cover page for this task order. The Contractor shall not perform any work under this PWS until the QAPP is reviewed and approved by the TOCOR and Quality Assurance Manager.

The contractor must document in the QAPP details regarding application testing procedures and test results, document and validate source code as well as code version, document testing acceptance criteria, and verify the results are correct. (See these documents: "EPA Manual C/0 2105-P-01-0: EPA Quality Manual for Environmental Programs" and "EPA Requirements for Quality Assurance Project Plans (QA/R-5)"). The QAPP should contain all of the sections outlined in the EPA Requirements (QA/R-5) document. Section B headings can be edited to document software-specific quality assurance.

Delivery Schedule: Due 15 days after issuance of the task order.

## **Task 3: Support and Maintenance of HAWC**

The Contractor shall provide support for the Health Assessment Workplace Collaborative (HAWC) application by maintaining code, fixing bugs, and developing new features. The Contractor shall provide the appropriate expertise to support ongoing HAWC development. The Contractor shall manage, identify, and recruit experts to support this task, as needed. Specific tasks EPA needs completed will be captured in "ticket" requests. The contractor shall identify, in coordination with EPA, project management tool, to manage and track tickets. Under this scheme, EPA staff will add ticket requests to Trello (or a similar software application), where the EPA TOCOR or Alternate TOCOR will approve the ticket and direct the contractor to initiate work on the ticket. ICF will address the approved tickets and will indicate when tickets are complete so the EPA TOCOR and Alternate TOCOR contact can close out requests in the internal EPA ticketing system for HAWC.

The Contractor shall classify EPA tickets as high, medium, and low level of effort items. Example tasks for each of these three categories include the following.

- High level of effort - Creating new dosing regimens without creating new animal groups
- Medium level of effort - Adding risk of bias overall confidence sorting to all visuals
- Low level of effort - Adding "NA" as an option for the variance of an endpoint

The Contractor shall classify these tickets based on their priority level. As directed by the EPA TOCOR/Alt TOCOR, the Contractor should anticipate completing high priority tickets first, and focusing on longer-term ticket requests classified as low and medium level of effort. For the purposes of estimating costs, the Contractor should assume:

	High Priority Tickets	Lower Priority Tickets	Total Tickets
High Level of Effort	4	0*	<b>4</b>
Medium Level of Effort	5	16	<b>21</b>
Low Level of Effort	5	5	<b>10</b>
Total	14	21	<b>35</b>

\*The contractor shall not anticipate completing lower priority and high level of effort tickets prior to the end of work TO period of performance.

The Contractor will perform unit tests on all Python and JavaScript code using PyTest or a JavaScript unit testing framework chosen by the EPA where feasible. Alternatively, the Contractor will perform integration tests using Selenium. The Contractor will take additional steps based on these tests:

- For code that breaks existing tests, the Contractor will provide:
  - A detailed explanation of why the new code needs to break the old test; and
  - If appropriate, a modification of the test so that it passes in the new environment.
- For code that the Contractor cannot test due to technical limitations, the Contractor will provide:
  - A detailed explanation of why ICF cannot test the code.

#### IV. EPA CONTACT INFORMATION

Copies of all correspondence pertaining to the performance of this task order shall be sent to the CL-COR.

TOCOR  
 Dahnish Shams  
 202-564-2758  
[shams.dahnish@epa.gov](mailto:shams.dahnish@epa.gov)

Alt TOCOR  
 Shane Thacker  
 919-541-5159  
[Thacker.shane@epa.gov](mailto:Thacker.shane@epa.gov)

# ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1

2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER 09/11/2020		2. CONTRACT NO. (If any) 68HERC19D0003		6. SHIP TO: a. NAME OF CONSIGNEE HQAD PY1	
3. ORDER NO. 68HERC20F0444		4. REQUISITION/REFERENCE NO. PR-OCSPF-20-00367			
5. ISSUING OFFICE (Address correspondence to) CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001				b. STREET ADDRESS One Potomac Yard 2777 S Crystal Drive	
				c. CITY Arlington	e. ZIP CODE 22202-3553
7. TO: Robert Toth				f. SHIP VIA	
a. NAME OF CONTRACTOR ICF Incorporated, L.L.C.				8. TYPE OF ORDER	
b. COMPANY NAME				<input type="checkbox"/> a. PURCHASE <input checked="" type="checkbox"/> b. DELIVERY REFERENCE YOUR: Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.	
c. STREET ADDRESS 9300 LEE HIGHWAY				Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.	
d. CITY FAIRFAX		e. STATE VA	f. ZIP CODE 220316050		
9. ACCOUNTING AND APPROPRIATION DATA See Schedule				10. REQUISITIONING OFFICE ORD/OSIM-CIN	
11. BUSINESS CLASSIFICATION (Check appropriate box(es))					
<input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB					
12. F.O.B. POINT					
13. PLACE OF		14. GOVERNMENT B/L NO.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) 03/10/2021	
a. INSPECTION Destination	b. ACCEPTANCE Destination			16. DISCOUNT TERMS	

## 17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	DUNS Number: 072648579 TOCOR: CATHLEEN STEWART					
	Continued ...					

SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(h) TOTAL (Cont. pages)
	21. MAIL INVOICE TO:						
	a. NAME RTP Finance Center						\$53,246.00
	b. STREET ADDRESS (or P.O. Box) US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts						\$53,246.00
c. CITY Durham			d. STATE NC	e. ZIP CODE 27711		17(i) GRAND TOTAL	

22. UNITED STATES OF AMERICA BY (Signature) 09/11/2020

23. NAME (Typed)  
William M. Yates  
TITLE: CONTRACTING/ORDERING OFFICER

**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO  
2

**IMPORTANT:** Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER 09/11/2020	CONTRACT NO. 68HERC19D0003	ORDER NO. 68HERC20F0444
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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
0001	Admin Office: CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001 Accounting Info: 20-21-B-20A-000CJ2-2504-MS203207-2020SB2052- 001 BFY: 20 EFY: 21 Fund: B Budget Org: 20A Program (PRC): 000CJ2 Budget (BOC): 2504 Job #: MS203207 DCN - Line ID: 2020SB2052-001 Period of Performance: 09/11/2019 to 03/10/2021  New ICF HHRA 68HERC19D0003 Contract Task Order to support the 2020 US EPA Annual Conference on New Approach Methods: Alternatives to Animal Testing the week of October 22, 2020. Conference Spending Code: MS203207 CO: William Yates COR: Melissa Revely-Wilson Alt. COR: Robin Harris TOCOR: Cathy Stewart, Alt TOCOR: LaTangila Edwards				53,246.00	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$53,246.00

**PERFORMANCE WORK STATEMENT**  
**CONTRACT NO. 68HERC19D0003**  
**68HERC20F0444**

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**TITLE: Support to the 2020 US EPA Annual Conference on New Approach Methods: Alternatives to Animal Testing**

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**Specify Section & Paragraph SOW:** E2, Risk Assessment Support; Administration and Technical Support for Meetings

**PERIOD OF PERFORMANCE:** 09/11/2020 to 03/10/2021

**I. PURPOSE**

The purpose of this Task Order (TO) is to provide services to the U.S. Environmental Protection Agency's (hereinafter EPA or Agency) for administrative and technical support to the **2020 US EPA Annual Conference on New Approach Methods (NAMs): Alternatives to Animal Testing**, to be hosted virtually during the week of October 22, 2020.

The desired goals of the invitation-only conference are the following:

- Learn about advances in the NAMs field
- Provide a common understanding of the state of the science in the development of NAMs
- Explore approaches to developing scientific confidence
- Set expectations in the performance of NAMs relative to existing animal models
- Provide an update on EPA's progress towards its 2025 and 2035 goals

**II. BACKGROUND**

Over the past several years, the Agency has made significant efforts to reduce, replace, and refine its animal testing requirements, and will continue to lead the way among the federal agencies. EPA's Office of Chemical Safety and Pollution Prevention (OCSPP) and Office of Research and Development (ORD) have been tasked to identify additional opportunities to take accountable steps to significantly reduce (and eventually eliminate) the number of mammals used in testing to meet the 2025 and 2035 goals set forth in the EPA Administrator September 10, 2019 memorandum. In addition, the advent of new approach methods (NAMs) for generating safety information on chemicals provides an opportune time to take stock of what chemical risk assessments could look like in the 21<sup>st</sup> century. To modernize risk assessment, there is a need to demonstrate how the data and tools can be incorporated into future risk assessments. These advances come as the modernization of the Toxic Substances Control Act, the review of the European chemicals management law, the next phase of the Canadian Chemical Management Plan, and many international chemical management policies and laws, have escalated the need to enable sharing of data and knowledge across this regulatory landscape. This will be EPA's second NAMs conference.

Participants at the **2020 US EPA Annual Conference on New Approach Methods: Alternatives to Animal Testing** will include a cross-sectional mix of stakeholders and scientific experts. The purpose of this conference is to engage with external stakeholders and scientific experts in a dialogue about using NAMs to evaluate chemicals

for potential health effects. The conference will consist of presentations by scientific experts from outside and inside the Agency – with the vast majority being from outside – to inform attendees and the general public on advances in the NAMs field. Speakers will present on the state of the science in NAMs related to the development of new models, overcoming technical and social barriers, and advances in data analysis and computational modeling to better extrapolate effects on human health.

The EPA NAMs workgroup is preparing a draft agenda for the conference as well as a list of invitees and potential speakers and will share these documents with the contractor when they are ready.

### **III. STATEMENT OF WORK**

#### **Task 1: Establishing Communication**

Within 3 days of award of this TO, the Contractor shall schedule a conference call (not to exceed 1 hour) with the Subject Matter Experts (SME), the Task Order-Contracting Officer Representative (TO COR), the Alternate Task Order-Contracting Officer Representative (Alt. TO COR), and the appropriate contractor staff to clarify outstanding questions and confirm the schedule and specific tasks.

#### **Task 2: Staffing Plan, and Quality Assurance Project Plan (QAPP)**

The Contractor shall prepare a Technical Work Plan in response to the Contracting Officer's RFP describing how the work outlined in this Performance Work Statement will be performed, including deliverables, a schedule, budget, and level of effort. The Contractor shall also prepare a Staffing Plan, which shall be submitted as part of the RFP, which shows assigned personnel by task and the qualifications of the proposed personnel. The Contractor shall provide expertise in administrative and technical support to a conference.

#### **Task 3: Pre-Conference Preparation**

##### **Task 3.1. Pre-Registering Conference Participants:**

The Contractor shall work with the necessary EPA web and IT personnel in developing an EPA based (mobile-friendly) conference registration website. At the very least, the website shall include a pre-registration page that contains pertinent logistical information. Upon receipt of a registration request, the Contractor shall ensure the person requesting registration is on the list of invitees as provided by the SME's. If not, the Contractor shall contact the SME's on whether to accept or decline the registration. The Contractor shall confirm a successful registration with the registrant or let the registrant know if the registration cannot be accepted.

The Contractor shall provide a list of pre-registrants, by way of a spreadsheet or other digital means, 4 weeks prior to the conference, and again beginning each week thereafter until the start of the conference, unless there were no new pre-registrants added during that period.

##### **Task 3.2. Coordinating with Speakers and Moderators**

The contractor shall, when given a list of speakers and moderators, obtain their appropriate power point presentations and organize these presentations in an appropriate manner to be ready during the conference. The contractor will confirm speakers and moderator's participation in cooperation with the SME's.

#### **Task 4: Conference Technical Support During Conference**

- The Contractor shall provide administrative and technical support for the duration of the Conference.

- The Contractor shall coordinate with EPA staff to ensure that all equipment needed for the meeting is available.
- The Contractor shall set up and manage the webinar and troubleshoot any issues related to the webinar during the conference. The Contractor shall also monitor webinar activity and questions for the duration of Conference.
- The Contractor shall distribute all handouts and materials as may be required during the course of the Conference.
- The Contractor shall facilitate conference presentations, record discussions, action items, and decisions.

#### **Task 5: Conference Summary Report**

The Contractor shall summarize the proceedings for both days of the Conference and provide the report to EPA following the Conference.

#### **IV. ANTICIPATED DELIVERABLES**

All products by the Contractor must be of high quality, written in a clear concise style, with a logical organization and presentation. Deliverables shall be provided to EPA in electronic formats compatible with EPA-supported software e.g., MS Office 2013 (or later) spreadsheets and documents.

#### **V. DELIVERABLES AND SCHEDULE**

Task 1. Initial Conference Call	3 days after award of Task order
Task 2. Work, Staffing Plan	20 days after award
Task 3. Participation	20 days after award 4 weeks prior to conference and weekly up to conference date
Task 4. 1 <sup>st</sup> draft of Notes of proceedings	7 days after end of Conference
Final version of Notes	5 days after NAMs workgroup approval of draft

Note: All days are calendar days.

#### **VI. MANAGEMENT CONTROLS**

1. All deliverables shall be reviewed for conformance to the requirements of this task order before being approved as final.
2. The Contractor shall comply with other applicable requirements for final task order reports stipulated in contract.

#### **VII. NOTICE REGARDING GUIDANCE PROVIDED UNDER THIS PROJECT**

Guidance is strictly limited to administrative, technical and analytical support. The Contractor shall not engage in activities of an inherent governmental nature such as the following:

- (1) Formulation of Agency policy
- (2) Selection of Agency priorities
- (3) Development of Agency regulations

Should the Contractor receive any instruction from an EPA staff person that the Contractor ascertains to fall into any of these categories or goes beyond the scope of the contract or task order, the contractor shall immediately contact the Contract Level Contracting Officer Representative (CL COR), the TO COR, or the Contracting Officer (CO).

### **VIII. SPECIAL CONDITIONS AND ASSUMPTIONS**

The Contractor shall hold a conference call with the EPA SME's and the TO-COR at the initiation of the task order, and shall provide a bi-weekly update to the SME's and the TO-COR by telephone for the duration of the task order, in addition to the standard reporting requirements of the contract.

### **IX. EPA CONTACT INFORMATION**

Copies of all correspondence pertaining to the performance of this task order shall be sent to the PO.

#### **Subject Matter Experts (SME):**

Anna Lowit  
U.S. EPA, OCSPP/OPP/IO  
2777 S. Crystal Drive  
Arlington, VA 22202  
703-308-4135

Gino Scarano  
U.S. EPA, OCSPP/OPPT/RAD  
1201 Constitution Ave., NW  
Washington, DC 20004  
202-564-2851

#### **Task Order Manager (TO-COR):**

Cathleen Stewart  
U.S. EPA, OCSPP/OPP/ITRMD/FMPB  
2777 S. Crystal Drive  
Arlington, VA 22202  
703-305-7711

#### **Alternate Task Order-COR:**

LaTangila Edwards  
U.S. EPA, OCSPP/OPP/ITRMD/FMPB  
2777 S. Crystal Drive  
Arlington, VA 22202  
703-305-7170



# ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1 264

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER 09/15/2020		2. CONTRACT NO. (If any) 68HERC19D0003		6. SHIP TO: a. NAME OF CONSIGNEE Office of Research and Development	
3. ORDER NO. 68HERC20F0451		4. REQUISITION/REFERENCE NO. PR-ORD-20-01385			
5. ISSUING OFFICE (Address correspondence to) CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001				b. STREET ADDRESS US Environmental Protection Agency 109 T.W. Alexander Drive	
				c. CITY Research Triangle Park	e. ZIP CODE 27711
7. TO: Robert Toth				f. SHIP VIA	
a. NAME OF CONTRACTOR ICF Incorporated, L.L.C.				8. TYPE OF ORDER	
b. COMPANY NAME				<input type="checkbox"/> a. PURCHASE <input checked="" type="checkbox"/> b. DELIVERY REFERENCE YOUR: Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.	
c. STREET ADDRESS 9300 LEE HIGHWAY				Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.	
d. CITY FAIRFAX		e. STATE VA	f. ZIP CODE 220316050		
9. ACCOUNTING AND APPROPRIATION DATA See Schedule				10. REQUISITIONING OFFICE ORD/OSIM-CIN	

11. BUSINESS CLASSIFICATION (Check appropriate box(es)) <input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB				12. F.O.B. POINT	
13. PLACE OF a. INSPECTION Destination		b. ACCEPTANCE Destination		14. GOVERNMENT B/L NO.	
				15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) 03/14/2021	
16. DISCOUNT TERMS					

## 17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	DUNS Number: 072648579 TOCOR: PAUL LEMIEUX  Continued ...					

SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(h) TOTAL (Cont. pages)
	21. MAIL INVOICE TO:						
	a. NAME RTP Finance Center						\$166,002.00
	b. STREET ADDRESS (or P.O. Box) US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts						\$166,002.00
c. CITY Durham			d. STATE NC	e. ZIP CODE 27711		17(i) GRAND TOTAL	

22. UNITED STATES OF AMERICA BY (Signature) 09/15/2020

23. NAME (Typed)  
William M. Yates  
TITLE: CONTRACTING/ORDERING OFFICER

## ORDER FOR SUPPLIES OR SERVICES

PAGE NO

## SCHEDULE - CONTINUATION

2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER	CONTRACT NO.	ORDER NO.
09/15/2020	68HERC19D0003	68HERC20F0451

ITEM NO.	SUPPLIES/SERVICES	QUANTITY ORDERED	UNIT	UNIT PRICE	AMOUNT	QUANTITY ACCEPTED																																																															
(a)	(b)	(c)	(d)	(e)	(f)	(g)																																																															
0001	<p>Admin Office: CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001 Period of Performance: 09/15/2020 to 03/14/2021</p> <p>Contract 68HERC19D0003 (Internal TO-0039)"Feasibility Study: Management of Hog Lagoon Slurry Following African Swine Fever Virus Outbreak"; Contract 68HERC19D0003; Reimbursible Funds from Interagency Agreement RW-012-92502501-2; Project Number HS 8.64.01-4508</p> <p>Agreement</p> <table><thead><tr><th>No</th><th>Vendor</th><th>BFY</th><th>Fund</th><th>Organization</th><th>Program</th><th>Max</th></tr><tr><th>Amt</th><th>Line Num</th><th>Line Amt</th><th>Line Avail</th><th>Amt</th><th>Desc</th><th></th></tr></thead><tbody><tr><td>RW012925025</td><td>27R1266</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>*</td><td>20202021</td><td>CR 26E2X36</td><td>000F72XPC</td><td>\$690,000.00</td><td></td><td></td></tr><tr><td>3</td><td>\$523,026.45</td><td>\$368,225.45</td><td>PP/BP:09/01/2018-08/31/2023</td><td></td><td></td><td></td></tr><tr><td>RW012925025</td><td>27R1266</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>*</td><td>20202021</td><td>CR 26E2Z36</td><td>000F72XPC</td><td>\$690,000.00</td><td></td><td></td></tr><tr><td>4</td><td>\$88,679.28</td><td>\$78,924.51</td><td>PP/BP:09/01/2018-08/31/2023</td><td></td><td></td><td></td></tr><tr><td>Total</td><td></td><td>\$611,705.73</td><td>\$447,149.96</td><td></td><td></td><td></td></tr></tbody></table> <p>Accounting Info: 20-21-CR-26E2X36-000F72XPC-2532-26A5C-2026E2E865-001 BFY: 20 EFY: 21 Fund: CR Budget Org: 26E2X36 Program (PRC): 000F72XPC Budget (BOC): 2532 Cost: 26A5C DCN - Line ID: 2026E2E865-001 Funding Flag: Complete Funded: \$129,789.00</p>	No	Vendor	BFY	Fund	Organization	Program	Max	Amt	Line Num	Line Amt	Line Avail	Amt	Desc		RW012925025	27R1266						*	20202021	CR 26E2X36	000F72XPC	\$690,000.00			3	\$523,026.45	\$368,225.45	PP/BP:09/01/2018-08/31/2023				RW012925025	27R1266						*	20202021	CR 26E2Z36	000F72XPC	\$690,000.00			4	\$88,679.28	\$78,924.51	PP/BP:09/01/2018-08/31/2023				Total		\$611,705.73	\$447,149.96							129,789.00	
No	Vendor	BFY	Fund	Organization	Program	Max																																																															
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Total		\$611,705.73	\$447,149.96																																																																		
0002	<p>Add additional funding to equal contractor cost proposal. Reimbursible funds from Interagency Agreement RW-012-92502501-2 with USDA 26E2X36 Paul Lemieux</p> <p>Accounting Info: 20-21-CR-26E2X36-000F72XPC-2532-26A5C-Continued ...</p>				36,213.00																																																																

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$166,002.00

ORDER FOR SUPPLIES OR SERVICES  
SCHEDULE - CONTINUATION

PAGE NO  
3

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER  
09/15/2020

CONTRACT NO.  
68HERC19D0003

ORDER NO.  
68HERC20F0451

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	2026E2E865-002 BFY: 20 EFY: 21 Fund: CR Budget Org: 26E2X36 Program (PRC): 000F72XPC Budget (BOC): 2532 Cost: 26A5C DCN - Line ID: 2026E2E865-002 Funding Flag: Complete Funded: \$36,213.00					

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

## **PERFORMANCE WORK STATEMENT**

**For Support for HSRP Research**

**Contract: 68HERC19D0003 (ICF), Task Order: 68HERC20F0451**

**Title: Feasibility Study: Management of Hog Lagoon Slurry Following African Swine Fever Virus Outbreak (HS 8.64.01-4508)**

**PERIOD OF PERFORMANCE: 18 Months**

**This is a Time and Materials type Task Order**

### **Background**

An important aspect of management of contaminated animal operations while responding to an animal disease outbreak such as with African Swine Fever Virus (ASFv), is the management of the depopulated animal carcasses through such techniques as on-farm composting. The management of the manure slurry contained in the on-site lagoons to prevent escape of ASFv is another important aspect of the disease response. One simple way to accomplish this is by allowing the lagoons to sit fallow for extended periods of time, potentially up to 6 months, during which time the virus potentially present in the water and slurry at the bottom of the lagoons will be inactivated through natural processes. During those 6 months however, weather and other occurrences (e.g., natural disasters) can cause the lagoons to overflow and release untreated material to the environment. Hog manure lagoons are potentially acres in size and many feet deep and are typically sized to handle 30-120 days of effluent from the barns, plus a specified amount of precipitation. The purpose of these Tasks is to perform a feasibility study to identify best practices for preventing the accidental release of ASFv from the lagoons while they lie fallow for up to 6 months.

### **Task 1: Develop Quality Assurance Project Plan**

The contractor shall develop a QAPP in accordance with <http://www.epa.gov/quality/qs-docs/r5-final.pdf> or based on the type of research that is being conducted. The QAPP must be approved prior to the start of any data collection and analysis work for the bench-scale tests on additives. Additional information related to QA requirements can be found at [www.epa.gov/quality](http://www.epa.gov/quality).

Deliverable: Draft QAPP 45 calendar days after award. EPA will review and return draft QAPP for revision. NWI will return completed QAPP for final approval within 15 working days.

### **Task 2: Literature Search**

The contractor shall perform a literature search and interviews with subject matter experts to collect best practices that are currently in use or under development to contain biocontaminants in hog waste lagoons. A reasonable first place to look would be under activities concerning securing lagoons in preparation for natural disasters. Some techniques to evaluate include temporary storage, lagoon covers, heat treating effluent before discharge, or other means of overflow management. The literature search will assess the quality of the collected manuscripts and evaluate the feasibility, economic effectiveness, and operational biosecurity of the methods identified in the literature search.

Deliverable: 1) a draft literature search in the form of an Excel file to be evaluated by the project team from EPA and USDA, who will provide comments within 2 weeks to the contractor. Revisions will be made to the Excel file and 2) the final literature search will be delivered both in the form of an Excel file and an EndNote database.

### **Task 3: Stakeholder Meeting**

The contractor shall convene and facilitate a 1 day stakeholder meeting to discuss the results of the literature search and collect additional input on potential operational recommendations that could be included in the feasibility study. EPA

and USDA will aid in the selection of attendees for the meeting. The contractor shall allow for paying invitational travel for up to three (3) stakeholders to attend the meeting. The contractor shall take notes and produce a letter report describing the discussions and recommendations from the meeting.

Deliverable: 1) a stakeholder meeting (1 day); 2) a draft letter report describing the results and recommendations from the stakeholder meeting; to be evaluated by the project team from EPA and USDA, who will provide comments within 2 weeks to the contractor. Revisions shall be made to the letter report and it will be delivered electronically to the TOCOR.

#### **Optional Task 4: Feasibility Study Report**

The contractor, based on the results of the literature search and the 1-day meeting with stakeholders, shall perform a feasibility study of best practices, using methodologies described in CERCLA, and examine various options for controlling potential release of ASFv from hog lagoons during post-response fallow periods up to 6 months in duration. In accordance with existing EPA guidance, comparing alternatives for managing excess slurry volume shall include temporary lagoon cover, temporary storage, heat treatment and any other newly discoverable alternatives from research. It is expected that the letter report from the Stakeholder meeting will be an appendix to the Feasibility Study Report.

Deliverable: An EPA report to undergo standard ORD internal and external peer review and management review prior to publication as a public document.

#### **Table of Deliverables**

<b>Deliverable</b>	<b>Date</b>
DRAFT QAPP	1 month after award
Final QAPP	2 months after award
DRAFT Literature Search	3 months after award
Final Literature Search	4 months after award
Stakeholder Meeting	6 months after award
DRAFT Letter report from Stakeholder Meeting	7 months after award
Final Letter report from Stakeholder Meeting	9 months after award
DRAFT Feasibility Study Report	3 months after start of OP1
Final Feasibility Study Report	9 months after start of OP1

TOCOR

Paul Lemieux

US EPA/ORD/CESER/HSMMD

[Lemieux.paul@epa.gov](mailto:Lemieux.paul@epa.gov)

919-541-0962

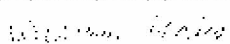
Alt TOCOR

Shannon Serre

US EPA/OLEM/CMAD

[Serre.shannon@epa.gov](mailto:Serre.shannon@epa.gov)

919-541-3817

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>				1. CONTRACT ID CODE		PAGE OF PAGES	
						1      2	
2. AMENDMENT/MODIFICATION NO.		3. EFFECTIVE DATE		4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO. (If applicable)	
P00001		See Block 16C		PR-ORD-20-01385		HS 8.64.01-4508	
6. ISSUED BY		CODE		7. ADMINISTERED BY (If other than Item 6)		CODE	
CAD							
CAD							
US Environmental Protection Agency							
26 West Martin Luther King Drive							
Mail Code: W136							
Cincinnati OH 45268-0001							
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)				(x)			
ICF Incorporated, L.L.C.				9A. AMENDMENT OF SOLICITATION NO.			
Attn: Robert Toth							
9300 LEE HIGHWAY				9B. DATED (SEE ITEM 11)			
FAIRFAX VA 220316050							
				x			
				10A. MODIFICATION OF CONTRACT/ORDER NO.			
				68HERC19D0003			
				68HERC20F0451			
				10B. DATED (SEE ITEM 13)			
				09/15/2020			
CODE 072648579		FACILITY CODE					
<b>11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS</b>							
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended. <input type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (If required)				Net Decrease:		-\$36,213.00	
See Schedule							
<b>13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.</b>							
CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.						
X	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).						
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:						
	D. OTHER (Specify type of modification and authority)						
<b>E. IMPORTANT:</b> Contractor <input checked="" type="checkbox"/> is not <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)							
DUNS Number: 072648579							
TOCOR: PAUL LEMIEUX							
LIST OF CHANGES:							
Reason for Modification: This will be Part One of a Two Part "FIX" modification. The subject award was rejected by RTP due to duplicate lines of accounting. Because RTP was able to process Line Item 1 for \$129,789.00, this mod which is part one of the "FIX" mod will de-obligate the funding and line of accounting for Line Item 2 in the EAS system. Once this is done, Part Two of the "FIX" mod will execute the corrected line of accounting on the contract for the remaining \$36,213.00.							
Continued ...							
Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
				William M. Yates			
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA		16C. DATE SIGNED	
(Signature of person authorized to sign)				 (Signature of Contracting Officer)		ELECTRONIC SIGNATURE 11/03/2020	

<b>CONTINUATION SHEET</b>	REFERENCE NO. OF DOCUMENT BEING CONTINUED 68HERC19D0003/68HERC20F0451/P00001	PAGE	OF
		2	2

NAME OF OFFEROR OR CONTRACTOR  
ICF Incorporated, L.L.C.

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	<p>Obligated Amount for this Modification: -\$36,213.00</p> <p>LIST OF CHANGES:</p> <p>Reason for Modification: Other Administrative Action</p> <p>Total Amount for this Modification: -\$36,213.00</p> <p>New Total Amount for this Version: \$129,789.00</p> <p>New Total Amount for this Award: \$129,789.00</p> <p>Obligated Amount for this Modification: -\$36,213.00</p> <p>New Total Obligated Amount for this Award: \$129,789.00</p> <p>CHANGES FOR LINE ITEM NUMBER: 2</p> <p>Total Amount changed from \$36,213.00 to \$0.00</p> <p>Obligated Amount for this Modification: -\$36,213.00</p> <p>CHANGES FOR DELIVERY LOCATION: ORD RTP</p> <p>Amount changed from \$36,213.00 to \$0.00</p> <p>CHANGES FOR ACCOUNTING CODE: 20-21-CR-26E2X36-000F72XPC-2532-26A5C-2026E2E865-002</p> <p>Amount changed from \$36,213.00 to \$0.00</p> <p>Payment:</p> <p>RTP Finance Center US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts Durham NC 27711</p> <p>Period of Performance: 09/15/2020 to 03/14/2021</p>				

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>		1. CONTRACT ID CODE		PAGE OF PAGES	
				1 1	
2. AMENDMENT/MODIFICATION NO. P00002		3. EFFECTIVE DATE See Block 16C		4. REQUISITION/PURCHASE REQ. NO. PR-ORD-20-01385	
5. PROJECT NO. (If applicable) HS 8.64.01-4508		6. ISSUED BY CODE CAD		7. ADMINISTERED BY (If other than Item 6) CODE	
CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001					
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code) ICF Incorporated, L.L.C. Attn: Robert Toth 9300 LEE HIGHWAY FAIRFAX VA 220316050		(x)		9A. AMENDMENT OF SOLICITATION NO.	
				9B. DATED (SEE ITEM 11)	
		x		10A. MODIFICATION OF CONTRACT/ORDER NO. 68HERC19D0003 68HERC20F0451	
				10B. DATED (SEE ITEM 13) 09/15/2020	
CODE 072648579		FACILITY CODE			

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended. ☐ is not extended.  
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required) Net Increase: \$36,213.00  
See Schedule

**13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
X	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

**E. IMPORTANT:** Contractor ☒ is not ☐ is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

**14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)**

DUNS Number: 072648579  
TOCOR: PAUL LEMIEUX  
Payment:  
RTP Finance Center  
US Environmental Protection Agency  
RTP-Finance Center (AA216-01)  
109 TW Alexander Drive  
www2.epa.gov/financial/contracts  
Durham NC 27711  
Period of Performance: 09/15/2020 to 03/14/2021

Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) William M. Yates	
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA  ELECTRONIC SIGNATURE (Signature of Contracting Officer)	16C. DATE SIGNED 11/06/2020

Previous edition unusable

ORDER FOR SUPPLIES OR SERVICES						PAGE OF PAGES		
						1	2	
<b>IMPORTANT:</b> Mark all packages and papers with contract and/or order numbers.								
1. DATE OF ORDER 09/22/2020		2. CONTRACT NO. (If any) 68HERC19D0003		6. SHIP TO:				
3. ORDER NO. 68HERC20F0458		4. REQUISITION/REFERENCE NO. PR-OA-20-00125		a. NAME OF CONSIGNEE  HQAD EPA WEST				
5. ISSUING OFFICE (Address correspondence to) CAD  US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001				b. STREET ADDRESS US Environmental Protection Agency William Jefferson Clinton West Buil [Old Customs Building] 1301 Constitution Avenue NW		c. CITY Washington		
				d. STATE DC		e. ZIP CODE 20004		
7. TO: Robert Toth				f. SHIP VIA				
a. NAME OF CONTRACTOR ICF Incorporated, L.L.C.				8. TYPE OF ORDER  <input type="checkbox"/> a. PURCHASE REFERENCE YOUR:    Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.				
b. COMPANY NAME								
c. STREET ADDRESS 9300 LEE HIGHWAY				<input checked="" type="checkbox"/> b. DELIVERY  Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.				
d. CITY FAIRFAX		e. STATE VA						f. ZIP CODE 220316050
9. ACCOUNTING AND APPROPRIATION DATA See Schedule				10. REQUISITIONING OFFICE ORD/OSIM-CIN				
11. BUSINESS CLASSIFICATION (Check appropriate box(es)) <input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB						12. F.O.B. POINT		
13. PLACE OF		14. GOVERNMENT B/L NO.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) 09/21/2021		16. DISCOUNT TERMS		
a. INSPECTION Destination		b. ACCEPTANCE Destination						
17. SCHEDULE (See reverse for Rejections)								
ITEM NO. (a)	SUPPLIES OR SERVICES (b)			QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	DUNS Number: 072648579 TOCOR: SUSAN EULING Max Expire Date: 09/21/2021  Continued ...							
SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		\$25,709.00	17(h) TOTAL (Cont. pages) ◀
	21. MAIL INVOICE TO:							
	a. NAME		RTP Finance Center					
	b. STREET ADDRESS (or P.O. Box)		US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts				\$25,709.00	17(i) GRAND TOTAL ◀
	c. CITY		d. STATE		e. ZIP CODE			
Durham		NC		27711				
22. UNITED STATES OF AMERICA BY (Signature)				09/22/2020		23. NAME (Typed) William M. Yates TITLE: CONTRACTING/ORDERING OFFICER		

**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO  
2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER 09/22/2020	CONTRACT NO. 68HERC19D0003	ORDER NO. 68HERC20F0458
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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
0001	Admin Office: CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001 Period of Performance: 09/22/2020 to 09/21/2021  Contract # 68HERC19D0003; (Internal TO-0022 TO-COR: Susan Euling TO Title: Characterization of Current and Emerging Childrens Environmental Health Priority Issues from the Scientific and Popular Literature  Accounting Info: 20-21-B-QZ-000MH3-2505-2011Z01013-001 BFY: 20 EFY: 21 Fund: B Budget Org: QZ Program (PRC): 000MH3 Budget (BOC): 2505 DCN - Line ID: 2011Z01013-001 Funding Flag: Complete Funded: \$25,709.00				25,709.00	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$25,709.00

**Performance Work Statement for**  
**Task Order 68HERC20F0458 on Contract # 68HERC19D0003**

**Title: Characterization of Current and Emerging Children’s Environmental Health  
Priority Issues from the Scientific and Popular Literature**

**TO Contracting Officer’s Representative (COR):**

Name: Susan Y. Euling  
Office: Office of Children’s Health Protection  
Division: Regulatory Support and Science Policy Division  
Phone: 202-566-2717  
Email: [euling.susan@epa.gov](mailto:euling.susan@epa.gov)

**Alternate COR:**

Name: Rebecca Dzubow  
Office: Office of Children’s Health Protection  
Division: Regulatory Support and Science Policy Division  
Phone: 202-564-0967  
Email: [dzubow.rebecca@epa.gov](mailto:dzubow.rebecca@epa.gov)

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IV. TASKS AND DELIVERABLES.....	3
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## **I. INTRODUCTION**

The EPA Office of Children's Health Protection (OCHP) was established in 1997 by EPA Administrator Carol Browner (Memorandum on Agency Reorganization, Feb. 27, 1997). The mission of OCHP is to provide national leadership in children's environmental health (CEH) protection.

## **II. BACKGROUND**

For OCHP to demonstrate leadership and focus its resources on the priority CEH issues facing US children today as well as in the near-future, the project will identify the current critical CEH issues and make predictions about emerging CEH issues.

## **III. PURPOSE AND SCOPE OF WORK**

A CEH issue is defined broadly herein to include a topic, chemical class or mixture, life stage, media or route of exposure issue (e.g., breastmilk, transplacental transfer), a research need, etc. relevant and pertinent to children's environmental health. The focus of the project is on science-related CEH issues. Issues such as communication and outreach are beyond the scope of this project. The goal of the project is to identify and characterize 1) current CEH science issues; and 2) emerging or future CEH science issues (called "emerging CEH issues" herein). The methods to address this goal will be limited to searches of the scientific literature, defined here as scholarly, peer-reviewed scientific articles, and popular articles, defined here as articles written in periodicals for the general public, via state-of-the-art web-based and computer program-based literature search methods. For the identification of CEH current issues, direct search term searches may be fruitful. However, for the identification or prediction of near-term future or emerging issues, the scientific literature searches may not be as fruitful. Therefore, a search of the popular literature could be useful as well as sophisticated literature search tools and methods will be needed.

EPA requires Contractor support to complete this goal.

The Tasks are -

- 1) Conduct literature searches within EPA's Health and Environmental Research Online (HERO, <https://hero.epa.gov/hero/index.cfm>) (Task 1) of -
  - a. the scientific literature (scholarly articles, published in peer-reviewed journals, including authoritative reports from government and other organizations) using state of the art methods web-based methods;
  - b. the popular literature (e.g., newspapers, magazines, other periodicals) using state of the art methods web-based methods;
- 2) House the results in a CEH Emerging Issues Project Page in HERO with a folder for the date of the unscreened Literature Search Results. HERO retains the literature search details and results indefinitely, and the metadata can easily be exported at any time.

- 3) In order to identify relevant/pertinent results, the unscreened Literature search results folder/tag in HERO (scientific literature and popular literature) will be screened relevancy criteria (provided by EPA) using software tools (e.g., SWIFT, Distiller) (Task 2). The articles can be tagged in the HERO database for relevancy and within that tag/folder, specific relevancy criteria subtags are used as well. The HERO project page will also include a literature flow diagram of the results.
- 4) For each “Relevant Literature search results” file (one for scientific literature and one for popular literature), sort the relevant articles by CEH categories (categories provided by EPA). Create two files entitled “Sorted Relevant Articles by CEH categories) with tags in HERO for each CEH category (Task 2).
- 5) Summarize and analyze the findings (Task 3) will include identification based on the literature search screening and sorting of at least 15 “priority” and no more than 30 total current and emerging/future CEH issues and needs, and the rationale for selecting these as priority CEH needs.
- 6) Produce a compilation of materials (Task 3) that includes 1) a transparent description of the methods for literature searching, screening, and sorting; and 2) a summary of the findings. These findings will include the findings of the 15-30 priority current and emerging/future CEH issues, and the rationale for selecting these as priority CEH needs. The final report will include the HERO link to the Project page which includes search results (unscreened; screened; and sorted into tags) as well as literature flow diagram and the word file text report.

#### **IV. TASKS AND DELIVERABLES**

##### **Task 1: Program Management**

The Contractor shall provide project management under this task and shall submit a Monthly Progress Report to EPA’s Contracting Officer Representative (COR) and Contracting Officer (CO) in accordance with the Section V (Project Reporting). During the Period of Performance, defined as 12 months after the kick-off meeting, the Contractor shall immediately inform the COR and CO by telephone and/or email of any issue(s) that may impede performance along with any corrective actions needed by the EPA or the Contractor to address the issue(s).

Under this task, the Contractor shall attend a kick-off meeting, either via conference call or in-person (referred to as “meeting” herein), whichever is most cost effective to the Government, to discuss the goals, strategy, and schedule for completing the deliverables. The specific date of the kick-off meeting will be determined in consultation with the COR but no later than 2 weeks after award of the contract. The contractor shall discuss the format of the Monthly Progress Report, including more detailed budget tracking, and propose a progress report template to the EPA COR and CO for approval. The Contractor, under this task, will also attend a wrap-up meeting at the end of the Period of Performance.

In response to the EPA’s Technical Directive, the Contractor shall provide draft and final work plans outlining approaches for completing all tasks in a timely manner consistent with the scope of the Technical Directive. The work plan shall include a proposed timeline for deliverables, based on discussions with the COR and other EPA management and staff at a kick-off meeting.

NOTES: Regarding the deadlines specified in this TO, some of which are for draft deliverables that require review and input from EPA, the contractor may request additional time to complete a deliverable. In such cases, the contractor will work with the EPA TOCOR to revise the schedule for a deliverable, as needed. All of the TO work will be completed within the task order POP.

The contractor will ensure that Quality Assurance and Quality Control (QA/QC) activities for the TO will be met in accordance with the Quality Management Plan (QMP) for this contract, which describes the requirements for conducting quality management activities under this contract.

Due to the pandemic, all work products and deliverables under the TO will be provided in electronic format and communications with EPA will primarily be via e-mail and telephone.

The contractor will perform various necessary communication and management activities related to this TO.

Table 1: Program Management Deliverables and Schedule

Task 1 Components	Deliverable	Schedule
1.1	Attend kick-off meeting. At meeting, discuss workplan (staffing and budget plan) and any revisions needed. Finalize revisions to workplan. The contractor shall discuss the format of the Monthly Progress Report, including more detailed budget tracking, and propose a progress report template to the EPA COR and CO for approval.	Within 2 weeks of award.
1.2	Monthly Progress Report	By 10 <sup>th</sup> business day each month
1.3	Attend wrap up meeting	Before or at the end of the 12 month period of performance

## **Task 2: Conduct Literature Search, Screen Literature, and Sort Literature for both Scientific and Popular Literature**

**2.1. Conduct a search of the scientific literature** Searches of the scientific literature will be performed with Web of Science and PubMed (which now includes ToxNet records) using HERO. The contractor will develop a search strategy that will return approximately 10,000 total citations but ideally less, if possible, to focus on current and emerging CEH literature. The contractor will work with OCHP to refine the search to narrow the scope and assumes up to two refinements and iterations with OCHP on the search strategy. The parameters of the literature search include -

- OCHP is interested in identifying the current priority and emerging CEH issues and research areas. Since prediction is difficult, creative search term development

approaches are needed. For example, terms such as emerge, develop, arise, and other words will be to be considered and tested;

- The search will exclude articles not published in English language journals;
- The search will focus on US CEH articles; Studies performed on populations outside the US will be excluded (even though some of this literature may be relevant to US children, for the purpose of focus, they will not be included);
- The search will use a publication year cutoff of the last 5 years (i.e., 2015-2020);
- The search will include conference abstracts (which may help identify emerging issues); and
- Only titles and abstracts (not full text) will be retrieved and used for screening.

and A Project Page entitled “OCHP CEH Current and Emerging Issues” will be created in the EPA HERO database. In addition to standard methods, litstream™ will be used to prioritize literature and conduct title and abstract (TiAb) relevancy screening for the scientific and popular literature. All tags will be uploaded to HERO. To determine the most effective search terms and search strategies, EPA will hold a discussion with the Contractor. Prior to the meeting, the Contractor will perform some preliminary searches and consider various tools and approaches. At this meeting, the results of the preliminary searches and options for both search terms and search strategies will be discussed. Then, the Contractor will provide a Word document with options for search terms and strategies to EPA. After receiving the options, EPA will make a final decision, selecting among the options. Then, the Contractor shall perform the literature searches and provide the scientific literature search results, tagged as “Scientific Literature” and the dates of the search, to EPA as a HERO Project Page link.

## ***2.2. Conduct a search of the popular literature***

Methods to identify CEH articles in the popular literature (e.g., New York Times) will be identified. Some popular literature periodicals of a less investigative or scientific nature (e.g., People magazine) will not be included. Note that search terms will be developed independently/separately for the scientific and the popular literature. The contractor will search the ProQuest and the EBSCO databases Web News and Newswires. The contractor will use their access to Web News and Newswires through an EBSCO database subscription; the search would be run outside of HERO and the results will be uploaded to the HERO project page. The following assumptions are made for the literature search -

- An estimate of 1,500 CEH relevant search results will be identified across the two databases;
- The contractor will work with OCHP to refine the search to narrow the scope and assumes up to two refinements and iterations with OCHP on the search strategy;
- For ProQuest, the search will be restricted to the following specific source types: Newspapers; Blogs, Podcasts, & Websites; Trade Journals; Reports; Magazines; Books; Working Papers;
- For ProQuest, the search will incorporate a publication year cutoff of the last 5 years (i.e. 2015-2020).
- For ProQuest, the search will exclude non-U.S. based articles or articles based on non-U.S. studies or findings;

- For both databases, the initial search will focus on current and new issues using terms such as emerge, develop, rise, etc.; and
- For both databases, the search will be limited to only papers published in English.

To determine the most effective search terms and search strategies, EPA will hold a discussion with the Contractor. Prior to the meeting, the Contractor will perform some preliminary searches and consider various tools and approaches. At this meeting (same meeting as Task component 2.1), the results of the preliminary searches and options for search terms and search strategies will be discussed. Within two weeks of the discussion, the Contractor will provide a Word document with options for search terms and strategies to EPA. Then, EPA will make a final decision, selecting among the options. At this point, the Contractor shall perform the literature searches and provide the scientific literature search results of the literature search to EPA in an Excel file (or other agreed upon file type). Then, the Contractor shall perform the literature searches and add the scientific literature search results and dates of the search into the HERO project page tagged as “Popular Press” (results from each Task component 2.1 and 2.2).

### ***2.3. Screen the articles for CEH relevancy and sort the relevant articles by CEH categories.***

The articles returned from the literature searches will be screened to identify the relevant and pertinent articles. For the literature searches performed, the sorting and tagging will be conducted either within HERO or imported into the HERO Project Page. The CEH topic relevancy of the identified scientific articles and popular articles will be determined using relevancy criteria. These criteria will be developed in collaboration with EPA and the Contractor. The Contractor will send a draft list of relevancy criteria via email to EPA. Then, EPA will provide revisions of the list of relevancy criteria to the Contractor. The relevancy sorting will be performed separately for the scientific literature and for the popular literature. The relevancy sorted records will be provided to EPA via the HERO Project Page link. For the screening and sorting, the following assumptions and details are -

- **Scientific literature screening:** Prior to the TiAb screening, the contractor will use machine learning algorithms within litstream™ (systematic review software management tool) to prioritize the search results from the scientific literature. The deduplicated search results will be uploaded to litstream™ to screen the TiAb of papers until 100 relevant and 100 not-relevant papers are identified. These studies will be used as a training data set for machine learning algorithms. The search results will be divided into two bins: predicted relevant and predicted not relevant. The algorithm will provide the predicted relevant score, which will be used to prioritize the studies to be manually screened by TiAb. To maximize efficiency and focus resources, the contractor assumes that no more than 2,500 scientific articles will require manual review. If the number of manual screens needed exceeds 2,500, the contractor and EPA will meet to discuss priority screens, and we assume we will be able to reduce the number of manual screens to this figure.
- **Popular literature screening:** The contractor will assume a maximum of 1,500 popular literature articles will be manually reviewed; machine learning algorithms will not be

used for the popular literature. Based on the reference structure of popular literature, the relevancy and tagging screening will be based on title only.

- **CEH relevant tag identification:** The contractor will use automated tools to identify a preliminary list of CEH relevant tags. These tools will include clustering techniques that assign keywords to bins of literature or a text analytic approach to identify high-frequency words in the titles and abstracts. Based on the results generated by these tools, approximately 10 candidate tags will be provided to EPA in Task 2.3 after the text analytics tag identification. EPA will accept or revise these tags and then the final tags will be used to develop the draft list of CEH categories.
- **Title and abstract screening of literature into tags:**
  - To maximize efficiency, study tagging will be conducted simultaneously with TiAb screening (where studies selected as included will also receive a tag). Contractor will assume that no re-screening studies will be required.
  - During the title and abstract screening, screeners will coordinate regularly with the contractor's team to compare emerging tags and standardize them through the screening process, which we assume will reduce the amount of time spent re-reviewing relevant articles for tagging.
  - Conduct a pilot consisting of 50 articles per screener will be conducted and checked by a senior scientist (estimated 5% of total literature) before proceeding through the remainder of the screening.
  - Following the pilot, for scientific literature, contractor assumes 60 seconds to screen each article and add a tag to relevant studies. For popular literature, the time to screen each article's title and tag to relevant category is assumed to be 30 seconds.
  - Contractor assumes one junior screener per article, and we assume no secondary review by a more senior scientist will be conducted.

The Contractor will hold a meeting with EPA to discuss and refine the categories in light of the identified literature and CEH issues, for each the scientific and the popular literature. Two weeks after this meeting, the Contractor will provide discussion notes and options for CEH Issue categories to EPA. After EPA has received the options, EPA will select the final categories for CEH issues and provide the list via email to the Contractor. The Contractor will organize the literature into the CEH categories (e.g., by tags) within HERO, keeping the popular press results and the scientific literature results separate and provided to EPA via the HERO Project Page link.

To retrieve full-text of studies tagged as relevant, the following approach will be used:

- Review HERO database to check if pdf is already available (from another Project Page or as Open Access);
- If pdf is unavailable, EndNote's "find full-text feature" will be used to identify free articles that the contractor has subscriptions for;
- A list of studies without a pdf available through the previous means to the Office of Children's Health Protection;
- NOTE: the contractor will not use the "GET" function; i.e., no fees will be incurred for pdfs as part of this contract.

**Deliverables:** See Table 2 for the deliverables. The overview for Task 2 is that the Contractor will provide the following within HERO of - 1) the unscreened scientific literature results; 2) the relevancy screened scientific literature; 3) the screened and CEH category-tagged scientific literature; 4) the unscreened popular literature results; 5) the relevancy screened popular literature; 6) the screened and CEH category-tagged popular literature.

Within the HERO Project Page, records will include the titles, publication date, authors, and abstracts (when available). EPA will make use of the pdfs that are already available in HERO, from existing Project Pages. For any articles/records that are available without cost, they will be added to HERO, the contractor and EPA will guarantee that the appropriate rights for pdfs (i.e., watermark) are obtained. In addition, the contractor and EPA will not share the pdfs beyond those working on the EPA project.

Table 2: Deliverables and schedule under Task 2

Task 2 Components	Deliverable	Schedule
2.1 and 2.2.	The Contractor will present proposals to EPA for defining search strategies, search terms, and available tools. Preliminary search results will be provided to EPA. Separate discussions for the scientific and the popular literature will be needed.	The meeting will be held within 4 weeks after the kick-off meeting.
	Word files describing and outlining options for literature searches, one for the scientific literature and one for the popular literature, including preliminary search results within HERO, search term options, and available tools/approaches for searches and subsearches will be provided to EPA.	2 weeks after the meeting.
	EPA selects the options and sends the revised Word files to the Contractor	2 weeks after receiving the draft of options.
	The Contractor performs the agreed upon searches within HERO and provides the search results, using one tag for popular press and one for scientific literature, which can be accessed by EPA.	2 weeks after receiving the selection of options from EPA.
2.3	Draft relevancy criteria and proposed CEH tags will be sent via email as two	Within 10 weeks of the start of the contract.

Task 2 Components	Deliverable	Schedule
	Word files (one for the scientific and one for the popular literature) to EPA.	
	Within 2 weeks, EPA will provide revisions of the list of relevancy criteria and CEH tags to the Contractor.	2 weeks after receipt of the draft relevancy criteria.
	The Contractor shall complete the screen for relevancy and pertinence, performed separately for the scientific and the popular literature, and tag the literature in HERO.	3 weeks after EPA has sent the relevancy criteria and CEH tags to the Contractor.
	Contractor will have performed sorting and screening. Contractor will hold meeting with EPA to discuss and refine CEH issue categories for sorting. List of tags will be finalized at meeting.	No more than 2 months after the kick-off meeting.
	Discussion notes from the meeting and options for CEH issue categories (one for the scientific and one for the popular literature) will be sent as a Word file via email to EPA.	2 weeks after the meeting.
	The Contractor will tag the literature into the final CEH categories within HERO (one for the scientific and one for the popular literature).	2 weeks after the Contractor has received the final CEH categories from EPA.

### **Task 3: Final Compilation Document on Identified Priority Current and Emerging Children's Environmental Health Issues**

Deliverable: Produce a compilation of materials that includes the 1) transparent process of the detailed methods employed for searching (i.e., search strings), decisions made, screening (i.e., inclusion/exclusion criteria), and sorting (i.e., tags); and 2) a summary of the findings of the scientific and popular literature searches which includes the priority current and emerging CEH issues.

To maximize efficiency and to include materials valuable to the overall project goal of collecting information relevant to priority and emerging CEH issues, the compilation of materials will include -

- Meeting notes from contractor-EPA meetings, documenting decisions;
- Documentation of literature search string, date of search, etc.;
- Documented exclusion and inclusion criteria;
- Tags in HERO;
- The list of up 15-30 priority CEH issues and the justification for selecting each;

- A single graphic depicting the literature flow diagram within HERO, provided as a PowerPoint file or other similar graphics file; and
- The HERO project page (Note: no PDFs will be ordered via HERO).

### ***3.1: Draft a compilation on the methods used for literature searching, sorting, and screening.***

The compilation of the methods for searching, sorting, and screening used in this effort will be drafted by the Contractor and delivered to EPA. The chapter must include a level of detail that would allow someone to recreate this literature search and sorting and produce similar results, or to rerun the literature search at a future date in a consistent manner. The information on the literature search will include the decisions made at the Task 2 discussion meetings regarding search terms, search strategies, databases searched, preliminary search results, final decisions, and justifications for the decisions. Meeting notes can be used for capturing a detailed level of information on the search terms and strategies. Similarly, and the process for identifying the CEH categories/tags will be included. This information can be found in meeting notes from Task 2. EPA will review the compilation and provide revisions and comments to the Contractor via email after the draft was received. The Contractor will then revise the compilation and add it to the Final Report (see Task component 3.3 below).

### ***3.2.: Analysis of the sorted literature results for priority current and emerging CEH issues.***

The Contractor will draft a summary of the results organized in a table by the CEH issue categories (tags) of the current and emerging (as one or two tables) CEH issues in the scientific literature and a second table for the popular literature; and 2) an analysis of the sorted literature to identify the resulting priority current CEH issues from each of the scientific and popular literature. The plan for analysis of results is based on the search results obtained through the previous tasks. The results of CEH categorization of the scientific and popular literature will drive the analysis. Additional sub-searches, as needed, will be performed.

The Contractor shall provide to EPA the literature search results within the HERO Project page organized by two larger tags, one for the scientific literature and one for the popular literature. Then, within each of these larger tags, the literature will be tagged for Relevant/Not relevant; Criteria for relevancy; and CEH issue categories.

The Contractor shall identify at least 15 and up to 30 CEH issues (total) across the scientific and popular literature searches. The priority issues will first be identified separately for the scientific and popular literature but some of the issues may overlap (i.e., there is no need to identify 15 issue for the scientific literature and 15 from the popular literature). This draft of the CEH issue analysis and results will be delivered to EPA. EPA will review the material (tables and text) and provide written revisions and comments to the Contractor via email. The COR and other technical liaisons at EPA will need to discuss the summary findings in a meeting. The Contractor will schedule a meeting to take place within two weeks of receiving the written comments from EPA. The Contractor will then revise the draft chapter after the meeting with EPA, deliver the complete

final chapter to EPA, and add it to the Final Report (see Task 3.3 component below). A Word file plus all associated figures and tables will be included in the final report.

### **3.3: Complete the final compilation document of the literature search, sorting, and results**

The Contractor will deliver the draft report to EPA. This report will include the material developed in Task components 3.1 and 3.2 as well as associated figures, tables, and references in a Word document. EPA will provide comments on the report to the Contractor. The Contractor will then revise the draft report and deliver the final chapter to EPA. EPA's goal is to develop a plan for an analysis of the results of the search obtained through the previous tasks, conduct this comprehensive analyses, conduct additional sub-searches as needed, and develop a draft compilation of the search, results, and analysis, focusing on at least 15 and not more than 30 current and emerging CEH issues identified from a combination of the scientific and popular literature.

Table 3: Deliverables and schedule under Task 3

Task 3 Components	Deliverable	Schedule
3.1.	Draft compilation of searching, screening, and sorting methods	Delivered to EPA by 6 months after the kick-off meeting
	EPA provides comments and edits to the Contractor	Within 2 weeks after receipt of the draft chapter
	Contractor revises the methods compilation based on EPA's comments delivered to EPA	Within 2 weeks after receipt of EPA's comments
3.2	Draft of literature search summary results delivered to EPA (work concurrent with Task 2 above).	Delivered to EPA by 6 months after the kick-off meeting.
	Meeting to discuss any analyses needed of the CEH literature search findings. Contractor presents Analysis Plan to EPA.	Meeting set up by 6.5 months after the kick off meeting.
	Draft Analysis plan delivered to EPA.	Within 2 weeks of the meeting.
	EPA provides comments and edits on the Analysis Plan to the Contractor	Within 2 weeks after receipt of the draft chapter
	The Contractor submits the final Analysis Plan to EPA	Within 2 weeks of receipt of EPA's comments.
	Analysis Plan and Results description and compilation is delivered to EPA.	Delivered to EPA no more than 8 months after the kick off meeting.

Task 3 Components	Deliverable	Schedule
	EPA provides written comments to Contractor.	2 weeks after receipt of draft portion of chapter.
	Contractor delivers final compilation to EPA for Task 3.2 component.	2 weeks after meeting.
3.3	Draft CEH Current and Future Key Emerging Issues Project Compilation of Methods and Findings delivered to EPA by the Contractor. Pieces of the draft report were produced in Tasks 2 and 3 (above).	Delivered to EPA by 10 months after the kick-off meeting
	EPA provides written comments to the Contractor on the complete (all chapters) draft report.	EPA provides comments within 3 weeks of receipt of the draft report
	Final CEH Current and Future Key Emerging Issues Compilation document delivered to EPA	Delivered to EPA by 3 weeks after the meeting to discuss comments.

## **V. PROJECT REPORTING**

The Contractor shall provide project management under this Task Order and shall submit a Monthly Progress Report to EPA's Contracting Officer Representative (COR) and Contracting Officer (CO).

## **VI. PERIOD OF PERFORMANCE**

The period of performance for this Task Order is from the date of the kick-off meeting until 12 months after the date of the kick-off meeting. This period of performance will allow findings of the Needs Assessment to stay relevant and up-to-date.



# ORDER FOR SUPPLIES OR SERVICES

## SCHEDULE - CONTINUATION

PAGE NO  
2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER 09/23/2020	CONTRACT NO. 68HERC19D0003	ORDER NO. 68HERC20F0460
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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
0001	Admin Office: CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001 Period of Performance: 09/23/2020 to 09/22/2021 Contract # 68HERC19D0003; Internal TO-0022) COR: Susan Euling TO Title: Characterization of EPA Challenges and Opportunities in Childrens Environmental Health Accounting Info: 20-21-B-QZ-000MH3-2505-2011Z01014-001 BFY: 20 EFY: 21 Fund: B Budget Org: QZ Program (PRC): 000MH3 Budget (BOC): 2505 DCN - Line ID: 2011Z01014-001 Funding Flag: Complete Funded: \$68,322.00				68,322.00	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$68,322.00

**Performance Work Statement**  
**Task Order 68HERC20F0460 on Contract # 68HERC19D0003**

**Title:** Characterization of EPA Challenges and Opportunities in Children’s Environmental Health  
**Short title:** CEH Needs Assessment

**TO Contracting Officer’s Representative (COR):**

Name: Susan Y. Euling  
Office: Office of Children’s Health Protection  
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**Alternate COR:**

Name: Manthan Shah  
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## **I. INTRODUCTION**

The EPA Office of Children's Health Protection (OCHP) was established in 1997 by EPA Administrator Carol Browner (Memorandum on Agency Reorganization, Feb. 27, 1997). The mission of OCHP is to provide national leadership in children's environmental health (CEH) protection. OCHP, located within EPA's Office of the Administrator, has the goal of protecting the health of children by ensuring that all EPA actions and programs address the unique vulnerabilities of children because children may be more vulnerable to environmental exposures than adults. In addition to OCHP staff at headquarters (HQ) in Washington, DC, there are children's health coordinators at each of the EPA regional office who work on CEH issues most relevant and of highest priority to their geographic areas.

Three specific goals of OCHP (<https://www.epa.gov/aboutepa/about-office-childrens-health-protection-ochp>) are to:

- 1) "reduce negative environmental impacts on children through involvement in EPA rulemaking, policy, enforcement actions, research and applications of science that focuses on prenatal and childhood vulnerabilities;"
- 2) "protect children through safe chemicals management; "and
- 3) "coordinate community-based programs to eliminate threats to children's health where they live, learn and play."

## **II. BACKGROUND**

In order for OCHP to demonstrate leadership in protecting CEH across EPA, it is important that OCHP identify the internal CEH scientific, policy, and risk assessment challenges and opportunities encountered in both program and regional offices. OCHP does not have a recent compilation of CEH needs and issues at EPA. In addition to the benefits of identifying current internal CEH challenges and issues, the process of gathering the information is an opportunity for OCHP to build CEH partnerships across the Agency and facilitate potential partnerships among program and regional offices.

## **III. PURPOSE AND SCOPE OF WORK**

To address the need for current internal information on EPA program and regional office CEH challenges and opportunities, the work outlined here encompasses the planning and implementation of a project to gather, analyze, and compile CEH challenges and opportunities for OCHP. The information will be gathered using a systematic and thoughtful approach that provides an opportunity for programs and regions to openly discuss their current CEH challenges and opportunities with OCHP. The contractor together with EPA will develop one set of questions to query EPA Program Offices (POs) and Regions.

The information gathering will include face-to-face consultations as well as email queries for those who are not able to attend in person. After the information is gathered, a compilation and an analysis of patterns of the CEH information will be performed. A final report will include the plan, methods, compilation, and analysis of results.

The long-term outcomes for OCHP from the report on the CEH challenges and opportunities could include –

- 1) An understanding of current CEH challenges and opportunities across EPA;
- 2) Assistance to EPA programs and regions on specific CEH projects;
- 3) Increased awareness of CEH issues;
- 4) Facilitation of collaborations between programs and regions; and
- 5) Development of an OCHP strategic plan that incorporates cross Agency CEH needs and issues.

The assessment of internal CEH challenges and opportunities will focus on challenges currently facing individual programs and regions. For the purpose of this project, a “challenge” is defined broadly as a CEH-specific need or issue that is scientific in nature. The current or anticipated issues or needs are concerns at the science, risk assessment, or science policy level relevant and pertinent to children’s environmental health. The criteria for representing an “opportunity” is that when the issue or problem is solved, it is anticipated that there is improved children’s health protection. CEH issues may involve a particular chemical class, life stage, media, or route of exposure (e.g., breastmilk, transplacental transfer), scenario, or method. Examples of CEH needs include improved methods to assess aggregate chemical exposure to the fetus, to account for lifestage differences in toxicokinetics and toxicodynamics, and to assess cumulative risk to children. Issues and needs related to communication are also important but are beyond the scope of this project.

EPA requires Contractor support to complete this goal. The specific components of this task order are -

- 1) Develop an engagement plan and refine the plan by conducting one pilot consultation with a program or region (Task 2);
- 2) Identify and collect CEH needs and issues of internal EPA partners (program offices and regions) (Task 3);
- 3) Characterize the collected EPA internal partner CEH need information (Task 4);
- 4) Analyze the findings and visually illustrate the findings regarding pattern among the responses including the key priorities by office or region, cross-cutting priority areas, diagram of overlapping thematic areas, specific current problems, and the overarching issues identified (Task 4); and
- 5) Produce an EPA Internal Needs Assessment Report that includes a transparent description of the information gathering process, the findings, the analyses performed, and overarching conclusions. In addition, the contractor will deliver the final report to EPA (Task 4).

#### IV. TASKS AND DELIVERABLES

##### Task 1: Program Management

General assumptions about the deliverables and the schedule:

- 1) The contractor will complete the tasks within the timeframe delineated in the schedule but given the uncertainty of some tasks because there will be draft deliverables that require review and input from EPA, the contractor may request additional time to complete a deliverable by working with the EPA TOCOR to revise the schedule for a deliverable, as needed. However, all work will be completed within the TO POP.
- 2) The contractor will ensure that Quality Assurance and Quality Control (QA/QC) activities for the TO will be met in accordance with the Quality Management Plan (QMP) for this contract, which describes the requirements for conducting quality management activities under this contract.
- 3) All work products and deliverables under the TO will be provided in electronic format and communications with EPA will primarily be via e-mail and telephone.
- 4) To minimize impacts on the work due to the ongoing COVID-19 pandemic, the consultations will all be held online as virtual (video and teleconference) consultations.

The Contractor shall provide project management under this task and shall submit a Monthly Progress Report to EPA's Contracting Officer Representative (COR) and Contracting Officer (CO) in accordance with the Section V (Project Reporting). During the Period of Performance, defined as 10 months after the kick-off meeting, the Contractor shall immediately inform the COR and CO by telephone and/or email of any issue(s) that may impede performance along with any corrective actions needed by the EPA or the Contractor to address the issue(s).

Under this task, the Contractor shall attend a kick-off meeting, either via conference call or in-person (referred to as "meeting" herein), whichever is most cost effective to the Government, to discuss the goals, strategy, and schedule for completing the deliverables. The specific date of the kick-off meeting will be determined in consultation with the COR but no later than 2 weeks after award of the contract. The contractor shall discuss the format of the Monthly Progress Report, including more detailed budget tracking, and propose a progress report template to the EPA COR and CO for approval. The Contractor, under this task, will also attend a wrap-up meeting at the end of the Period of Performance.

In response to the EPA's Technical Directive, the Contractor shall provide draft and final work plans outlining approaches for completing all tasks in a timely manner consistent with the scope of the Technical Directive. The work plan shall include a proposed timeline for deliverables, based on discussions with the COR and other EPA management and staff at a kick-off meeting.

Table 1: Program Management Deliverables and Schedule

Task 1 Components	Deliverable	Schedule
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1.1	Attend kick-off meeting. At meeting, discuss workplan (staffing and budget plan) and any revisions needed. Finalize revisions to workplan. The contractor shall discuss the format of the Monthly Progress Report, including more detailed budget tracking, and propose a progress report template to the EPA COR and CO for approval.	Within 2 weeks of award.
1.2	Monthly Progress Report	By 10 <sup>th</sup> business day each month
1.3	Attend wrap up meeting	Before or at the end of the 12 month period of performance

**Task 2: Scoping Phase: Develop Engagement Plan and Pilot Internal EPA Consultation**The Contractor shall develop an engagement plan to identify best practices for the program and regional consultations, pilot one consultation meeting, and refine the engagement plan based on the pilot consultation.

Methods for collecting information are –

- 1) Virtual (videoconference plus teleconference) consultation meetings; and
- 2) Email inquiries for EPA staff who could not attend the scheduled virtual meetings.

The goals are to schedule the scoping meeting, followed by a pilot (i.e., trial run) consultation meeting, and then conduct the program consultation meetings. It is important that all consultation meetings take place over <6 month period in order to capture current internal CEH needs to ensure timeliness and relevance. Therefore, careful planning of all consultations is required prior to initiating the first consultation. The Contractor will work closely with the TOCOR to coordinate and identify specific dates and times. The Contractor shall operate under the assumption that each consultation will last for 1.5 hour.

#### *Subtask 2.1: Engagement Plan*

One week after the kick off meeting, a project scoping meeting (1-3 hours) will be convened with the Contractor, including the facilitator (see Subtask 2.2 and Task 3 below), the TOCOR, and other OCHP staff to discuss the purpose and scope of the *CEH Needs Assessment*, develop an agenda for the consultation meetings and draft an outline for the partner engagement plan. The purpose of the partner engagement plan is to develop the best practices for engaging with internal partners (i.e., EPA staff in programs and regions) in order to systematically identify and analyze CEH needs. The engagement plan will describe the types of questions asked to internal partners and the best modes of question dissemination and data collection based on the experience of the contractor and methods in stakeholder engagement. At this meeting, OCHP will provide the contractor with the programs and regions expected to be invited to each consultation meeting. There will be time at the meeting for discussions and feedback that will result in a refinement of the scope. At the scoping meeting, OCHP staff will also describe some of the children's environmental health topics in order to educate the facilitator about the scientific content for the various program and regional offices.

One week prior to the scoping meeting (above), EPA will provide draft questions to be used to identify internal needs. The draft set of questions is designed to catalyze and prompt discussion about current and emerging CEH issues and not to specifically target known program or regional concerns. The contractor will provide a draft outline for the engagement plan and a draft agenda for the scoping meeting one week prior to the scoping meeting. At the scoping meeting, OCHP staff and the Contractor will work together to refine the engagement plan (including the questions and agenda to be used at the pilot face to face consultation). OCHP will be responsible for selecting the final set of questions for identifying CEH needs and challenges. Within two weeks of the scoping meeting, the draft engagement plan including the final questions and agenda will be delivered the contractor to EPA. EPA will review the draft engagement plan and provide comments to the contractor within 2 weeks of receiving the plan. One week later, the contractor will provide the final engagement plan to be used for the pilot consultation to EPA.

#### *Subtask 2.2: Pilot Consultation*

EPA will schedule the pilot consultation for a date within 2 weeks of receipt of the final engagement plan. One week prior to the 1-hour pilot consultation, a videoconference call between the contractor and EPA will be held to finalize logistics, the program or regional office included in the pilot, and any remaining questions.

The Contractor shall provide -

- Invite 20 participants to the 1.5-hour pilot consultation virtual meeting;
- Use Microsoft Teams Meetings for videoconferencing and Mural, an online whiteboarding tool to capture ideas from participants;
- The first 15-minutes of the pilot meeting will include an orientation on using Mural to ensure all participants feel comfortable using the technology;
- The last 5 to 10 minutes of the meeting will be used to verify the CEH challenges and issues heard by the group using the notes taken within the Mural board;
- Electronic meeting materials (project scope and goals, agenda, and questions, and ground rules for engagement) in a powerpoint presentation;
- Provide two facilitators, one senior and one junior facilitator, and one notetaker for the pilot consultation. The senior professionally-trained facilitator will have some knowledge of the CEH subject matter to lead and direct the consultation discussions. This same facilitator will be in discussions with EPA since the kick-off meeting to ensure consistency and to enable OCHP staff to provide information about each program and regional office's regulatory areas. The facilitator shall have at minimum a master's degree or equivalent in one of the following fields of study: public health; epidemiology; environmental and occupational health; toxicology; pharmacology, physiology or other biological or health sciences discipline. In lieu of a master's degree, the facilitator shall have at least five years experience working as a facilitator for environmental health meetings. EPA staff will meet the facilitator at the kick off meeting and assess their qualifications (resume provided to EPA) and will subsequently have the option to request a different facilitator if their area of expertise is not considered appropriate; and

- The note taker will take high-level notes during the pilot meeting itself to capture the themes and key findings during the discussion. In addition, after the pilot, notes taken on post-its through Mural and in-person whiteboarding will be transcribed and included in a high-level summary and lessons learned report after each meeting.

At the beginning of the pilot consultation, EPA and the facilitator will introduce the purpose of the *CEH Needs Assessment* and the questions for discussion; and the contractor's facilitator will describe the rules for engagement and Mural Board training.

### *Subtask 2.3: Refinement of the Engagement Plan*

One week after the pilot consultation, the Contractor will deliver pilot consultation notes to EPA, and the Contractor will hold a one-hour conference call to discuss the pilot consultation. On the conference call, a debrief of the pilot consultation and consideration of changes to the Engagement Plan will be discussed and agreed upon. Within one week after the conference call, the contractor will deliver the final Engagement Plan to be used at the future 8 consultation meetings. Within one week of the conference call, EPA schedules the consultation meetings, based on the availability of the EPA staff and the contractor, and schedules the conference rooms for the consultations. The 8 consultations will take place within a 6-month timeframe.

**Deliverables:** See Table 2 for the deliverables. The overview for Task 2 is that the Contractor will provide the following - 1) the engagement plan; 2) facilitation of a pilot consultation; 3) meeting notes and lessons learned from the pilot consultation; 4) the refined engagement plan.

Table 2: Deliverables and Schedule under Task 2

Task 2 Components	Deliverable	Schedule
2.1	EPA will provide the Contractor with a draft set of questions for the internal partner consultation meetings.	On the day of the kick-off meeting.
	The contractor will provide EPA with a draft outline for the engagement plan and a draft agenda for the scoping meeting.	On the day of the kick-off meeting.
	The Contractor will convene a 1 to 3-hour project scoping meeting with the Contractor's facilitator, the COR, and other OCHP staff.	The meeting will be held within 1 week after the kick-off meeting.
	EPA will provide the contractor with the programs and regions expected to be invited to each of the consultation meetings.	At the Scoping Meeting.
	The Contractor will deliver the draft engagement plan (including the final questions and agenda) to EPA.	Within 2 weeks after the Scoping Meeting.
	EPA will provide comments on the draft Engagement Plan to the Contractor.	Within 2 weeks after receiving the Engagement Plan from the Contractor.

Task 2 Components	Deliverable	Schedule
	EPA will schedule the 1.5-hour pilot consultation.	Within 2 weeks after receiving the Engagement Plan.
	The Contractor will deliver the final engagement plan to be used for the pilot consultation to EPA.	One week after receiving EPA's comments.
2.2	The Contractor will hold a conference call between the contractor and EPA to discuss logistics and any remaining questions.	1 week after receiving the Final Engagement Plan.
	The one-hour pilot consultation. The Contractor will provide the facilitator, note taker, nametags, agenda, and questions at the pilot consultation.	2 weeks after receiving the Final Engagement Plan.
2.3	The Contractor will hold a 1.5-hour conference call to discuss the pilot consultation, deliver meeting notes, and deliver lessons learned from the pilot to EPA.	One week after the pilot consultation.
	The Contractor will deliver the Refined Engagement Plan to be used at the future consultation meetings.	One week after the conference call.
	EPA schedules the 8 consultation meetings, based on the availability of the EPA staff and the contractor, and schedules the conference rooms for the consultations.	Three weeks after the conference call.

### **Task 3: Gather CEH Challenges and Opportunities from EPA Programs and Regions**

After the pilot consultation, eight (final number to be determined in consultation with EPA) internal EPA partner consultation meetings will be conducted which will form the basis for collecting CEH internal needs. Ideally, separate consultations for each program office will be held in order to enable a focused discussion on CEH as it relates to the individual office's programmatic area. Regional program office staff, not including the children's health coordinators, will attend consultation meetings designated for their corresponding program office at HQ. Regional children's health coordinators will participate in a separate consultation. When individuals cannot attend the scheduled consultation for their office, they are invited to attend via video- or teleconference, or to attend a different consultation. Consultations with the following internal EPA partners are likely -

1. Office of Air and Radiation (HQ + corresponding regional staff)
2. Office of Water (HQ + corresponding regional staff)
3. Office of Land and Emergency Management (HQ + corresponding regional staff)
4. Office of Policy (HQ and corresponding regional staff)
5. Office of Pollution Prevention and Toxics (HQ + corresponding regional staff)
6. Office of Pesticides Programs (HQ + corresponding regional staff)
7. Office of the Administrator (HQ + corresponding regional staff)

## 8. Regional children's health coordinators.

### *Subtask 3.1: Plan, coordinate, and facilitate EPA partner consultations based on the refined Engagement Plan*

The eight consultations will take place within a six-month timeframe. Similar to the pilot consultation, the EPA consultations will follow the same format plus any revisions made based on the experience of the pilot (see Task 2.2). Each consultation will be attended virtually by approximately 20 EPA staff (including scientists, risk assessors, advisors, and children's health experts). At the beginning of each consultation, EPA will introduce the purpose of the *Needs Assessment*. The contractor will also keep time and move the discussion forward so that all questions can be discussed.

For planning the virtual consultations and sending the emails , the contractor shall –

- EPA/OCHP staff will identify staff emails within each program and regional office and provide the specific names and emails to the contractor.
- Using the invitation list provided by EPA, the contractor will send email invitations and track responses for approximately 240 total invitees using an e-mail account to communicate with potential participants about meeting logistics, invitation responses, and share meeting questions with non-attendees.

For each virtual consultation, the contractor shall -

- Target 20 participants per each 1.5-hour pilot consultation virtual meeting;
- The contractor will use Microsoft Teams and Mural, an online whiteboarding tool to capture ideas from participants to conduct eight 1.5-hour virtual data collection consultation meetings. There will be no additional cost to EPA for the access to and use of videoconferencing and whiteboard technology;
- The meetings will not include a breakout.
- Each consultation will include –
  - The first 15-minutes of the pilot meeting will include an orientation on using Mural to ensure all participants feel comfortable using the technology;
  - Then, EPA and the facilitator will introduce the purpose of the *CEH Needs Assessment* and the questions for discussion; and the contractor's facilitator will describe the rules for engagement;
  - The last 5 to 10 minutes of the meeting will be used to verify the CEH challenges and issues heard by the group using the notes taken within the Mural board;
  - Electronic meeting materials (project scope and goals, agenda, and questions, and ground rules for engagement) in a powerpoint presentation;
  - Two facilitators, one senior and one junior facilitator, and one notetaker for the pilot consultation; and
  - A note taker will take high-level notes during the pilot meeting itself to capture the themes and key findings during the discussion.

- After each consultation: In addition, after the pilot, notes taken on post-its through Mural and in-person whiteboarding will be transcribed and included in a high-level summary and lessons learned report after each meeting.
- Design each consultation meeting and create a Mural Board that will engage participants and be used to collect their written contributions to the discussion. Similar to in-person workshops, the Mural Board will be designed to engage participants in discussion around identification of challenges and opportunities and prioritization of ideas.

After each consultation, the Contractor will provide notes from the meeting within one week of the consultation. The contractor shall schedule two 1-hour conference calls with EPA in order to discuss or trouble shoot any issues that arise. The first consultations will be held one week after the first consultation and the 2<sup>nd</sup> conference call will be held after the 4<sup>th</sup> consultation.

*Task 3.2: Email CEH issues collection: Email with consultation questions to EPA staff unable to attend in-person consultations*

To gather feedback from EPA staff who were unable to attend the consultation, the Contractor shall create an email with background information about the project and the same questions used at the consultations. EPA will provide the e-mail addresses to the Contractor based on initial invitation list created during scoping meeting and the resulting RSVPs. The email will be sent on the date of the final face to face consultation meeting with a request for replies within 2 weeks. The Contractor will send a reminder email one week before the response due date. The Contractor will compile the responses as part of the CEH Needs Report (see Task 4). The assumption is that there will be no more than 30 email responses to compile as part of the CEH needs report.

Table 3: Deliverables and Schedule under Task 3

Subtask	Deliverable	Schedule
3.1	Contractor sends out invitations to internal partners at least 2 weeks prior to each consultation and reminders 1 week prior to each consultation.	3.5 months after kick-off meeting.
	1 <sup>st</sup> consultation meeting held	4 months after kick-off meeting.
	Contractor holds 1.5-hour conference call with EPA to discuss any issues after first consultation. Contractor delivers meeting notes and lessons learned to EPA.	1 week after 1 <sup>st</sup> consultation meeting.
	Contractor delivers meeting notes and lessons learned to EPA.	1 week after each consultation meeting.
	Contractor holds 1 hour conference call with EPA to discuss any issues after first consultation. Contractor delivers meeting notes and lessons learned to EPA.	1 week after 4 <sup>th</sup> consultation meeting.

	8 (maximum) consultations are completed within a 4 month timeframe.	8 months after kick-off meeting.
3.2	The Contractor shall send an email to EPA staff not able to attend the consultation with project background information and the same questions used at the consultations.	On the day of the last consultation meeting (8 months after the kick-off meeting).
	The Contractor shall gather and compile the responses to the email.	2 weeks after the email is sent (8.5 months after the kick-off meeting).

#### **Task 4: Final Report on EPA Challenges and Opportunities in Children’s Environmental Health: Compilation and Analysis of Findings**

Deliverable: Produce a report that includes the 1) transparent description of the process and methods employed for gathering internal CEH needs and issues (including the Engagement Plan, the Results from the Pilot consultation, and the refined Final Engagement Plan); 2) a summary compilation of the CEH issue findings from all of the partner consultations and email responses; and 3) a summary of the findings from the analysis of patterns of results across the programs and regions.

##### *Subtask 4.1: Conducting qualitative and quantitative analysis of results from consultation meetings.*

CEH needs identified from the consultation meetings will be qualitatively and quantitatively analyzed by the Contractor by topic, program office/region. In addition, data display methods will be considered that provide a clear visual summary of the quantitative data. For example, qualitative assessments may include CEH issues organized by topic area or by program office/region while quantitative assessment may include number of EPA managers/staff, program offices or regions who brought up a certain CEH issue or topic area. The Contractor should ensure that details and nuances reported by participants during consultations are retained when reporting overall summary of findings.

The analysis plan specifically includes -

- An outline of qualitative and quantitative analyses of results from the one pilot and eight consultation meetings;
- A proposal of up to 9 themes (including an “other” category), each with up to 4 subthemes, of needs and opportunities that will be used to organize and analyze the information collected in the consultations and email responses for EPA input and approval;
- A spreadsheet with the meeting notes, Mural board, and email responses and coded according to the themes and subthemes. Assumption of approximately 70 pages of notes and email responses (8 sets of consultation notes at 5 pages each, and 30 emails at 1 page each). The contractor will perform quality control reviews of at least a 10% random sample to ensure completeness and accuracy of coding;

- One style of figure to visually display the analysis results (e.g., heat map or other diagram of commensurate effort) for each theme and one for the high-level combined findings.

A draft of the analyses will be included in the draft as part of the Needs Assessment Report (see Subtask 4.2).

The Contractor shall hold a one hour conference call with EPA to discuss and agree on a set of qualitative and quantitative analyses to be performed by the Contractor. This conference will take place 3 weeks after the final consultation. At this meeting, EPA will provide feedback to the contractor. Within one week, EPA will provide an email with final feedback on the analyses to be conducted by the Contractor.

#### *Task 4.2: Draft Children's Environmental Health Internal EPA Challenges and Opportunities Report*

It is anticipated the program offices/regions participating in the internal EPA needs consultation meetings may request the outcomes of the consultations in which they participated. Therefore, as part of the CEH Needs Report, one-pagers with a high-level summary of the CEH challenges and opportunities for each individual consultation meeting group will be developed by the Contractor.

The CEH internal needs assessment report will include:

- The description of methods including the materials used at the consultations and from meeting notes with EPA;
- Description of decisions made during the project (could use EPA-contractor meeting notes as documentation);
- The final analysis plan that outlines qualitative and quantitative analyses of results from the pilot and eight consultation meetings as well as the email responses to the questions.
  - 9 themes (including an "other" category), each with up to 4 subthemes, of needs and opportunities that will be used to organize and analyze the information collected in the consultations and email responses;
  - A spreadsheet with excerpted text from the notes, Mural board, and email responses and code them according to the themes and subthemes. The spreadsheet will be used to sort, summarize, and create visualizations of the results and track the office(s) that provide the CEH issue.
  - The maximum pages of notes to excerpt and code information is 70 pages of notes and email responses (1 pilot plus 8 sets of consultation notes at 5 pages each, and 30 emails at 1 page each).
  - One kind of visual for analysis (e.g., heat map or other diagram of commensurate effort) will be created for each theme (9) plus one overall high-level summary findings graphic. The contractor will use Excel, PowerPoint, or vector graphic software for creation of visuals.
- The draft report will be no more than 25 to 35 pages in length.

Within one month of the conference call to discuss analyses (Subtask 4.1), the Contractor shall deliver the Needs Assessment draft report for review by OCHP management and staff. Two weeks after the report is delivered to OCHP, staff will provide comments to the contractor. One week later, the Contractor shall hold a conference call with EPA to discuss their comments. EPA will provide comments on the draft report; EPA's comments will be mostly editorial (i.e., up to 20 line edits, up to one page of added text) and will not require new analyses or graphics. Three weeks after receipt of OCHP comments, the contractor will finalize and deliver the final 508-compliant CEH Needs Assessment report to EPA.

Table 4: Deliverables and Schedule under Task 4

Subtasks	Deliverable	Schedule
4.1	The Contractor will hold a conference call with EPA to present and discuss qualitative and quantitative analyses and data display ideas for the CEH needs findings.	3 weeks after the final consultation session (8.5 months after the kick-off meeting).
	EPA will provide final decisions (via email) about the analyses to be performed by the Contractor.	1 week after the conference call.
4.2	The Contractor delivers the draft CEH Needs Assessment Report to EPA.	1 month after EPA provides the final decision on analyses (<10 months after the kick-off meeting).
	EPA provides comments to contractor via email.	2 weeks after receiving the report (10.5 months after the kick-off meeting).
	The Contractor holds a 1 hour conference call to discuss EPA's comments.	1 week after the Contractor receives EPA's comments.
	Final CEH Needs Assessment Report delivered to EPA.	Due within three weeks after the conference call to discuss EPA's comments (11.5 months after the kick-off meeting).

## V. PROJECT REPORTING

The Contractor shall provide project management under this Task Order and shall submit a Monthly Progress Report to EPA's Contracting Officer Representative (COR) and Contracting Officer (CO).

## VI. PERIOD OF PERFORMANCE

The period of performance for this Task Order is from the date of the kick-off meeting until 12 months after the date of the kick-off meeting. This period of performance will allow OCHP findings about the CEH Challenges and Opportunities that are identified to be current and relevant.

ORDER FOR SUPPLIES OR SERVICES						PAGE OF PAGES		
						1	2	
<b>IMPORTANT:</b> Mark all packages and papers with contract and/or order numbers.								
1. DATE OF ORDER 10/07/2020		2. CONTRACT NO. (If any) 68HERC19D0003		6. SHIP TO:				
3. ORDER NO. 68HERC21F0012		4. REQUISITION/REFERENCE NO. PR-ORD-20-02007		a. NAME OF CONSIGNEE  Office of Research and Development				
5. ISSUING OFFICE (Address correspondence to) CAD  US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001				b. STREET ADDRESS US Environmental Protection Agency 1200 Pennsylvania Avenue, NW MC: 8101R				
				c. CITY Washington		d. STATE DC	e. ZIP CODE 20460	
7. TO: Robert Toth				f. SHIP VIA				
a. NAME OF CONTRACTOR ICF Incorporated, L.L.C.				8. TYPE OF ORDER  <input type="checkbox"/> a. PURCHASE REFERENCE YOUR:    Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.				
b. COMPANY NAME								
c. STREET ADDRESS 9300 LEE HIGHWAY				<input checked="" type="checkbox"/> b. DELIVERY  Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.				
d. CITY FAIRFAX		e. STATE VA	f. ZIP CODE 220316050					
9. ACCOUNTING AND APPROPRIATION DATA See Schedule				10. REQUISITIONING OFFICE ORD/OSIM-CIN				
11. BUSINESS CLASSIFICATION (Check appropriate box(es)) <input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB						12. F.O.B. POINT		
13. PLACE OF		14. GOVERNMENT B/L NO.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) 10/06/2021		16. DISCOUNT TERMS		
a. INSPECTION Destination		b. ACCEPTANCE Destination						
17. SCHEDULE (See reverse for Rejections)								
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SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		\$37,367.00	17(h) TOTAL (Cont. pages) ▲
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	c. CITY		d. STATE		e. ZIP CODE			
Durham		NC		27711				
22. UNITED STATES OF AMERICA BY (Signature)					23. NAME (Typed) William M. Yates TITLE: CONTRACTING/ORDERING OFFICER			

ORDER FOR SUPPLIES OR SERVICES  
SCHEDULE - CONTINUATION

PAGE NO  
2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER	CONTRACT NO.	ORDER NO.
10/07/2020	68HERC19D0003	68HERC21F0012

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
0001	Admin Office: CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001 Accounting Info: 20-21-C-26D1000-000F84-2532-26A5C-2026D1C022 -001 BFY: 20 EFY: 21 Fund: C Budget Org: 26D1000 Program (PRC): 000F84 Budget (BOC): 2532 Cost: 26A5C DCN - Line ID: 2026D1C022-001 Period of Performance: 10/07/2020 to 10/06/2021  Contract 68HEC19D0003 NEW Task Order International Collaboration for the Automation of Systematic Reviews (ICASR) Meeting Support				37,367.00	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$37,367.00

**PERFORMANCE WORK STATEMENT**  
**Contract No. 68HERC19D0003**  
**Order No. 68HERC21F0012**

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**Title: Support for the Sixth Meeting of the International Collaboration for the Automation of Systematic Reviews (ICASR)**

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**Specify Section & Paragraph SOW: E. Risk Assessment Support - Meetings**

**Period of PERFORMANCE: October 7, 2020 to October 6, 2021**

**I. PURPOSE**

The purpose of this task order is to provide services to the U.S. Environmental Protection Agency's (EPA) Center for Public Health and Environmental Assessment (CPHEA), Office of Research and Development (ORD), in support for the International Collaboration for the Automation of Systematic Reviews (ICASR) – 2020.

**II. BACKGROUND**

EPA's IRIS Program is an assessment program that evaluates qualitative and quantitative information on human health effects that may result from exposure to chemicals found in the environment. Through the IRIS Program, EPA provides science-based human health assessments to support the Agency's activities. As a part of these efforts, EPA has been developing and implementing systematic review processes within the IRIS Program to increase the transparency and clarity related to identifying and evaluating evidence and drawing conclusions in ongoing and future assessments. EPA previously held systematic review workshops in August 2013, October 2014, and December 2015.

In support of EPA's ongoing efforts to implement the principles of systematic review in environmental health assessments, and to foster forums for larger collaborations on the automation of the systematic review process, EPA and the National Institute of Environmental Health Sciences' (NIEHS) National Toxicology Program (NTP) are partnering to co-organize the 6th Meeting of the International Collaboration for the Automation of Systematic Reviews (ICASR).

**III. STATEMENT OF WORK**

**A. Objective**

The objective of this task order is to provide meeting support for the EPA and the National Institute of Environmental Health Sciences' (NIEHS) National Toxicology Program's (NTP) 6th Meeting of the International Collaboration for the Automation of Systematic Reviews.

The Contractor proposal shall describe how the work outlined in this PWS will be performed, including deliverables, a schedule, budget, level of effort, and qualifications of personnel by task. The Contractor shall also prepare a Staffing Plan that shows assigned personnel by task. For evaluation purposes, the cost proposal should include a price per primary task.

## **B. Specific Requirements (Tasks)**

### **Task 1. Establish Communication.**

Within 3 days of the start date of this WA, the Contractor shall schedule a conference call (not to exceed 1 hour) with the WAM and appropriate contractor staff to clarify outstanding questions and confirm the schedule and specific tasks. The Contractor shall prepare a written work plan describing how the tasks in this PWS will be performed, including a schedule, budget, level of effort, and qualifications of personnel. The Contractor shall maintain communication with the WAM through scheduled phone calls or email updates.

Delivery Schedule: Within 3 days of the start of this award.

### **Task 2. Convene Virtual Meeting**

In accordance with direction provided by EPA, and in coordination with the National Toxicology Program (NTP), the Contractor shall provide logistical support of the virtual meeting. This support may include, but is not limited to the following:

- Sending initial invitations; tracking invitee responses
- Following up with nonresponsive invitees
- Sending lightning slide template to attendees
- Tracking slides received
- Following up with invitees to send in slide
- Compiling lightning slide PPT
- Tracking attendance at virtual meeting
- Drafting and formatting meeting agenda
- Finalizing meeting agenda
- Drafting and finalizing lightning slide template
- Preparing presenter title/abstract template
- Emailing with presenters to submit ti/ab
- Finalizing and compiling all presenter written materials
- Emailing presenters information on recording their presentation and/or emailing IT information on presenting live
- Tracking the receipt of pre-recorded materials and following up with presenters as needed
- Meeting with presenters and/or providing additional support on how to record presentations
- Setting up and hosting virtual meeting platform (e.g., Zoom, Adobe Connect, MS Teams)
- Writing instructions for participants on joining the meeting and any technical troubleshooting tips
- Providing IT support to troubleshoot any IT issues during the virtual meeting
- Writing instructions for presenters to record and send in their presentations and/or writing instructions for presenters on live presentations
- Posting pre-recorded presentations
- Posting/compiling all meeting materials
- Monitoring all chat boxes in main sessions and breakout groups

The Contractor will provide an appropriate P-2 level staff to attend the conference days. The Contractor will also provide an appropriate P-3 level staff to provide technical support.

## **IV. SCHEDULE OF DELIVERABLES**

Deliverable Schedule: The deliverable schedule will vary depending on the task and chemical ordered. The Contractor will incorporate EPA comments within 7 days of receipt.

	<b>Anticipated Deliverables</b>	<b>Anticipated Due Date</b>
1	Teleconference NTE 1 hr - outlining how all tasks shall be performed	Within 3 days of award
2	Cost Proposal and Staffing Plan for Meeting	Within 5 days of award
3	Final Agenda and Completion of Meeting Logistics	Within 1 week prior to meeting,
4	Final List of Attendees	Within 1 week following the meeting.

**V. EPA CONTACT INFORMATION**

Copies of all correspondence pertaining to the performance of this task order shall be sent to the PO.

**TO Manager (TOCOR):**

Dahnish Shams

202-564-2758

Shams.dahnish@epa.gov

**Alternate TO Manager (ATOCOR)**

Michele Taylor

919-541-2298

taylor.michelem@epa.gov

# ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1

2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER 11/12/2020		2. CONTRACT NO. (If any) 68HERC19D0003		6. SHIP TO: a. NAME OF CONSIGNEE Office of Research and Development	
3. ORDER NO. 68HERC21F0034		4. REQUISITION/REFERENCE NO. PR-ORD-20-01258			
5. ISSUING OFFICE (Address correspondence to) CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001				b. STREET ADDRESS US Environmental Protection Agency 1200 Pennsylvania Avenue, NW MC: 8101R	
				c. CITY Washington	e. ZIP CODE 20460
7. TO: Robert Toth				f. SHIP VIA	
a. NAME OF CONTRACTOR ICF Incorporated, L.L.C.				8. TYPE OF ORDER	
b. COMPANY NAME				<input type="checkbox"/> a. PURCHASE <input checked="" type="checkbox"/> b. DELIVERY REFERENCE YOUR: Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.	
c. STREET ADDRESS 9300 LEE HIGHWAY				Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.	
d. CITY FAIRFAX		e. STATE VA	f. ZIP CODE 220316050		
9. ACCOUNTING AND APPROPRIATION DATA See Schedule				10. REQUISITIONING OFFICE ORD/OSIM-CIN	
11. BUSINESS CLASSIFICATION (Check appropriate box(es))					
<input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB					
12. F.O.B. POINT					
13. PLACE OF		14. GOVERNMENT B/L NO.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) 365 Days After Award	
a. INSPECTION Destination	b. ACCEPTANCE Destination			16. DISCOUNT TERMS	

## 17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
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	21. MAIL INVOICE TO:						
	a. NAME RTP Finance Center						\$110,981.00
	b. STREET ADDRESS (or P.O. Box) US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts						\$110,981.00
c. CITY Durham			d. STATE NC	e. ZIP CODE 27711		17(i) GRAND TOTAL	

22. UNITED STATES OF AMERICA BY (Signature)

11/12/2020

ELECTRONIC SIGNATURE

23. NAME (Typed)

William M. Yates

TITLE: CONTRACTING/ORDERING OFFICER

**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO  
2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER 11/12/2020	CONTRACT NO. 68HERC19D0003	ORDER NO. 68HERC21F0034
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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
0001	Admin Office: CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001 Accounting Info: 20-21-C-26D2000-000FK8XPW-2532-26A5C-2026D2C 017-001 BFY: 20 EFY: 21 Fund: C Budget Org: 26D2000 Program (PRC): 000FK8XPW Budget (BOC): 2532 Cost: 26A5C DCN - Line ID: 2026D2C017-001 Period of Performance: 11/12/2020 to 11/11/2021  Using UrbanSim to Improve Community Resilience				110,981.00	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$110,981.00

## PERFORMANCE WORK STATEMENT

Contract # 68HERC19D0003

TO 68HERC21F0034

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**Title:** Using UrbanSim to Improve Community Resilience Under Scenarios of Global Change

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**PERIOD of PERFORMANCE:** 12 months from award

### I. PURPOSE

The purpose of this task order is to provide services to the U.S. Environmental Protection Agency's Center for Public Health and Environmental Assessment (CPHEA), Integrated Environmental Assessment Branch in Washington, D.C. (IEAB-D) that provide model development and simulations using UrbanSim.

### II. OBJECTIVES

The objective of this Performance Work Statement (PWS) is to develop and calibrate an UrbanSim model for the Asheville, NC region ("Land of Sky")<sup>1</sup> and use that model to produce simulations of urban change under varying population scenarios. The model code and simulation results will be made available to staff of the Land of Sky Regional Council (LOSRC)<sup>2</sup>, EPA, and other stakeholders or interested parties identified by EPA.

### III. BACKGROUND

A significant portion of the IEAB-D research portfolio includes the development of tools and methods to assess the potential of impacts of emerging stressors on human health and the environment. The future vulnerability of a community is likely to be a function not only of varying environmental factors, but also changes in the size, location, and characteristics of the population. An understanding of how various combinations of these factors confer vulnerability on a community can inform options and strategies for improving resilience and well-being.

This project will be the first collaborative endeavor under a new ORD research effort that integrates new and existing projections of social and environmental change (i.e., land use, population, climate) into EPA's Office of Community Revitalization (OCR) technical assistance programs. OCR needs scenario tools and datasets that help their partner communities make more informed decisions about land use and development policies. OCR's Regional Resilience Toolkit<sup>3</sup> will serve as a framework for integrating climate, land use, and demographic projections into regional planning decisions made in collaboration with multiple jurisdictions, communities and stakeholders.

The currently available suite of land use projections (i.e., ICLUS) are well-suited for regional (i.e., multi-state) assessments, but those simulations lack detailed intra-urban dynamics needed for city- or neighborhood-scale projects. Using scenarios of population change (e.g., ICLUS), Census block-level simulations of future land use will be produced using UrbanSim<sup>4</sup>. The UrbanSim model – developed in the Python computer programming

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<sup>1</sup> <https://www.landofsky.org>

<sup>2</sup> <https://www.landofsky.org/staffinfo.html>

<sup>3</sup> <https://www.epa.gov/smartgrowth/regional-resilience-toolkit>

<sup>4</sup> <https://urbansim.com>

language – simulates metropolitan real estate and transportation markets, as well as decisions made by households, businesses, and governments. Information from these high-resolution scenarios of land use change will be presented in conjunction with climate change projections identified using ORD's Locating and Selecting Scenarios Online (LASSO) tool to provide a more comprehensive and long-range view of community vulnerability with the goal of building resilience and identifying robust adaptation responses. Where appropriate, other ORD scenario tools and datasets may also be used to inform site-scale vulnerability issues such as stormwater or contamination (brownfields).

A community has been identified for this initial pilot study. The Land of Sky (LOS) region encompasses the Asheville, NC metropolitan area and surrounding, less densely populated areas. Based on partner interest and the availability of detailed spatial data needed to calibrate UrbanSim, this four-county region is well-suited for this initial project.

#### **IV. REQUIRED CONTRACTOR QUALIFICATIONS.**

The Contractor shall provide demonstrated professional expertise in these areas:

1. Vulnerability and resiliency assessment
2. The strengths, limitations, and appropriate use of scenario frameworks such as the Shared Socioeconomic Pathways (SSPs)

#### **V. STATEMENT of WORK.**

##### **Task 1: Establish Communication, Prepare Work Plan, Cost Estimate, and Quality Assurance Project Plan**

Within 3 days of start date of this TO, the Contractor shall schedule a conference call with the TOCOR, EPA OCR staff, and appropriate contractor staff to clarify outstanding questions and confirm the schedule and specific tasks. The Contractor shall prepare and submit a work plan describing the project schedule, staffing, and hours required for completion of each task described in the Task Order, as well as an overall cost estimate for the work plan.

The contractor shall develop a quality assurance project plan (QAPP) for this task order for the Task Order Contracting Officer Representative (TOCOR) and QA manager approval. The work plan and the quality assurance project plan (QAPP) shall be submitted simultaneously for the TOCOR's approval. **The contractor shall not perform any work under this task order until the quality assurance project plan is reviewed and approved by the TOCOR and QA Manager.** The QAPP shall be prepared in accordance with EPA QA/R-5 (EPA/240/B-01/003 *Requirements for Quality Assurance Project Plans* May 2006), to ensure that environmental and related data collected, compiled, and/or generated for this project are complete, accurate, and of the type, quantity, and quality required for their intended use. This Task Order does not involve direct measurement of environmental conditions, collection of environmental samples, or laboratory analysis. However, the tasks in the Task Order require compilation and formatting of data and implementation of environmental models and geospatial mapping applications. The QAPP should describe the approach and measures that will be implemented to ensure a high standard of quality in data analysis and written deliverables. EPA guidance for developing QAPPs for modeling is provided in EPA QA/G-5M (EPA, 2002) and for geospatial data in EPA QA/G-5G (EPA, 2003).

The contractor shall evaluate the task order and the materials provided by the EPA TOCOR and prepare the QA project plan and the work plan and cost estimates within 1 week after the receipt of the task order.

**Deliverable 1.1. Initial Conference Call** – to clarify outstanding questions and confirm the schedule and specific tasks **within 3 days of task order award**

**Deliverable 1.2. The Contractor shall prepare and submit a work plan and QAPP** describing the project schedule, staffing, hours and QA activities required for completion of each task described in the Task Order, as well as an overall cost estimate for the work plan, **within 1 week from the Contractor's receipt of the PWS.**

## **Task 2: Routine and ongoing communication activities.**

Within 1 week after the approval of the work plan, the contractor shall meet with the EPA TOCOR for discussion regarding the scope and conduct of the work plan and to address any questions or need for clarification or elaboration. The Contractor shall take brief minutes at this and subsequent meetings and teleconference calls and provide those minutes, including any action items, to the TOCOR as requested.

In collaboration with the TOCOR, the Contractor shall establish a schedule for regular progress reports, project meetings, and other communications throughout the period of performance of this TO. It is estimated that this TO will require regular meetings and/or conference calls with the TOCOR and appropriate Contractor staff. Throughout the course of the Work Plan, the Contractor shall inform the TOCOR of any developments that affect the conduct of the project or the schedule. All deliverables shall be sent electronically to the TOCOR.

**Deliverable 2.1. Project Meeting.** The Contractor shall schedule a kick-off meeting with the TOCOR to address the timeline for the PWS, the scope and conduct of the work plan and to address any questions or need for clarification or elaboration **within one week following the TOCOR's approval of the Work Plan.**

**Deliverable 2.2. Routine Communications / Meetings.** Project meetings and other communications, including updates via conference calls, are scheduled as required by the TOCOR or at the request of the Contractor for the duration of the task order. When needed, brief meeting minutes, including action items, shall be prepared by the Contractor and emailed to the TOCOR **within 2 business days following all project meetings or conference calls.**

## **Task 3: Assess input data gaps and processing requirements**

The Contractor shall evaluate existing spatial and tabular datasets needed to calibrate and operate UrbanSim. It is anticipated that a large portion of the input requirements are available, or easily derived, from datasets developed for the Land of Sky AccelAdapt<sup>5</sup> instance. In coordination with EPA and LOSRC staff, the Contractor shall assess available data and determine the type and scope of data processing steps needed to prepare UrbanSim. Subsequent data processing steps may be completed by the Contractor or EPA or LOSRC staff.

**Deliverable 3.1. The Contractor shall coordinate scheduling of a conference call to discuss input data.** All EPA and LOS staff, as well as relevant Contractor staff, will discuss logistics and other issues related to data acquisition and processing. **This deliverable is due August 24<sup>th</sup>, 2020.**

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<sup>5</sup> <https://acceladapt.com/>

**Deliverable 3.2. The Contractor shall develop a memo describing any outstanding data needs.** The memo shall briefly summarize outstanding data requirements and identify the steps and personnel needed to satisfy all data requirements. **This deliverable is due within one week of Deliverable 3.1.**

#### **Task 4: Complete UrbanSim simulations**

The Contractor shall complete a minimum of three simulations using population projections identified under Task 3 or otherwise provided by EPA. A technical summary of simulation results, spatial and tabular input and output files, model code, and other components, results or outputs of this Task shall be delivered to EPA in commonly used formats. In addition, the Contractor shall schedule and lead a conference call in order to interpret and present the simulation results to LOS staff.

**Deliverable 4.1. Technical summary of model results.** The Contractor shall prepare a succinctly written summary of the simulation results in a format and level of detail generally equivalent to a “Results” section of a peer-reviewed journal article. The content and foci of this deliverable shall reflect the needs and interests of EPA and LOS staff identified in any of Deliverables 1.1, 2.1, and 3.1. **This deliverable is due January 10<sup>th</sup>, 2021.**

**Deliverable 4.2. Conference call to interpret and discuss results.** The Contractor shall schedule a conference call and in collaboration with EPA, present the results of the UrbanSim projections to LOS staff. This deliverable shall include an electronic presentation (e.g., PowerPoint) delivered for review to EPA prior to the conference call. **This deliverable is due within one week of Deliverable 4.1.**

**Deliverable 4.3. Input files, output files, and model code.** The Contractor shall provide copies of all UrbanSim model code (i.e., Python scripts and files), as well as all spatial and tabular files used to produce or resulting from the simulations completed under this Task. The items in this deliverable shall be sufficiently documented such that the TOCOR can replicate the results on EPA hardware. **This deliverable is due within one week of Deliverable 4.1.**

## **VI. DELIVERABLE TIMELINE**

<i>Task</i>	<i>Description</i>	<i>Deliverable Timeline</i>
<b>TASK 1</b>	<b>Establish communication, work plan, cost estimate, and quality assurance</b>	
1.1	Initial conference call	Within 3 days from the receipt of the PWS
1.2	Preparation of the work plan and cost estimate and QAPP	Within 1 week of Deliverable 1.1
<b>TASK 2</b>	<b>Routine and ongoing communication</b>	
2.1	Project meeting: Project Kick-off Meeting with Contractor and TOCOR	Within 1 week of the TOCOR’s approval of the Work Plan
2.2	Other routine communications and meetings	As needed per the request of the Contractor or of the TOCOR
<b>TASK 3</b>	<b>Assess input data gaps and processing requirements</b>	
3.1	Conference call to discuss input data	No later than August 24 <sup>th</sup> , 2020
3.2	Memo describing outstanding data needs	Within 1 week of Deliverable 3.1
<b>TASK 4</b>	<b>Complete UrbanSim simulations</b>	
4.1	Technical summary of model results	No later than January 10 <sup>th</sup> , 2021
4.2	Conference call to interpret and discuss results	Within 1 week of Deliverable 4.1
4.3	Input files, output files, and model code	Within 1 week of Deliverable 4.1

## **VII. MANAGEMENT CONTROLS**

1. All deliverables shall be reviewed for conformance to the requirements of this task order before being approved as final.
2. The contractor shall comply with other applicable requirements for final task order reports stipulated in contract.

## **VII. NOTICE REGARDING GUIDANCE PROVIDED UNDER THIS PROJECT**

Guidance is strictly limited to technical and analytical support. The contractor shall not engage in activities of an inherent governmental nature such as the following:

- (1) Formulation of Agency policy
- (2) Selection of Agency priorities
- (3) Development of Agency regulations

Should the contractor receive any instruction from an EPA staff person that the contractor ascertains to fall into any of these categories or goes beyond the scope of the contract or task order, the contractor shall immediately contact the PO, TOCOR or CO.

## **IX. SPECIAL CONDITIONS AND ASSUMPTIONS**

The contractor shall hold a conference call with the EPA TOCOR at the initiation of the task order and shall provide a bi-weekly update to the TOCOR by telephone for the duration of the task order, in addition to the standard reporting requirements of the contract.

## **X. EPA CONTACT INFORMATION**

Copies of all correspondence pertaining to the performance of this task order shall be sent to the TOCOR.

### **Task Order Contracting Officer Representative (TOCOR):**

Phil Morefield

Telephone: 202-564-7549

FAX: 202-564-0296

Email: [morefield.philip@epa.gov](mailto:morefield.philip@epa.gov)

Postal Address: 1200 Pennsylvania Ave, NW; Mail code 8623R; Washington, DC 20460

Physical Address: USEPA; Ronald Reagan Building; 1300 Pennsylvania Ave, NW, Rm 71252, Washington, D.C. 20004

### **Alternate Task Order Contracting Officer Representative (TOCOR):**

Abby Hall

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